

DON'T FEED THE BEAST: THE MURKY WORLD OF TOXOPLASMA GONDII

- **Contributes to Mental Illness**
- **Treat with a Ketogenic Diet-recipes included**

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From Meat Eaters to Grain Eaters

According to records of human evolution: after being a nearly vegetarian primate, humans scavenged meat and hunted wild animals for two million years. Then they ate meat from their domesticated herds of cattle, sheep, and pigs. As a result, the human brain grew bigger, and our blood type and digestive system changed to enable more animal protein digestion.

At their best, the culture of these people was egalitarian and cooperative. According to psychologist Peter Gray, PhD, it was common to “play” with each other in an effort to prevent problems like violence and the urge to dominate others.

But a long, widespread drought resulted in a change in cultural norms, our gut biome, and in the brain itself. People migrated to Mesopotamia where, for the first time, they cultivated land and grew grains for food. Then and there, also for the first time, a parasite called *toxoplasma gondii* invaded the human brain, eyes, and more. This parasite is linked to anxiety, depression, anti-social personality, blindness, seizures, hypersexuality, OCD, and cancer. And humans haven't been the same ever since.



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Parasite toxoplasma gondii contributes to many common health problems, but few people know about it.

There is a wealth of information on toxoplasma gondii, with 25,000 studies published. It is now clear that toxoplasma, including latent infection without symptoms, causes or contributes to nearly every mental and neurological disorder, impaired vision, and many physical problems. Yet, few people have even heard of toxoplasma. This is a tragedy, because up to 40% of adults are infected. It sexually reproduces only in felines, so it originates in its feces. However, human infection is mainly from eating raw contaminated fruits and vegetables, also from undercooked contaminated meat, from cats that spend time outdoors, soil, transmitted sexually, or via blood transfusions. So, it may be that many with these disorders could find relief by treating for toxoplasma. At this time, however, testing is rarely, if ever, done for these people.

Not all people with mental and neurological disorders are infected with toxoplasma as other factors also contribute to, or directly cause, these disorders, like heavy metals, chemicals, genes, trauma, and other infections. But, *t. gondii* lowers the primary anti-oxidant of the body-glutathione-needed to detoxify metals and chemicals and recycles vitamin C. Plus, other causes of mental and neurological disorders are difficult or impossible to address directly. So, despite the many drugs available for these problems, people continue to suffer. Interestingly, many anti-psychotics and anti-seizure medications prevent *t. gondii* replication! So, this may be one reason they're effective. However, these drugs can have major side effects.


Fortunately, there is another way to help people with t. gondii-related disorders: a low carb/high fat diet of ancestral foods. This diet provides nutrients, like arachidonic acid, zinc, lysine, and saturated fats, that destroy t. gondii and calm, protect, and heal the brain. T. gondii needs carbs and fiber to replicate, evade the immune system, and make cysts, but ketosis, or “fat-burning”, prevents that process and clears cyst-infected cells. Notably, t. gondii causes seizures and destroys insulin-producing cells, and the ketogenic diet was first formulated to treat both of these problems. Also, there is also much evidence that ketogenic diets help people with OCD, bipolar, ADHD, anxiety, autism, schizophrenia, diabetes, and obesity, and t. gondii causes or contributes to all of them. So, controlling t. gondii may be a reason the ketogenic diet helps these people.

T. gondii originated in Mesopotamia when humans first ate grains and seed oils, and was found in Egyptian cat mummies. Egyptians worshipped cats, since cats protected their grains, and pharaohs even kept large cats in their palaces! There were also t. gondii-related disorders in the Ancient World, like epilepsy, mania, schizophrenia, and blurry vision. T. gondii is destroyed by nutrients in meat and animal fat, but it replicates and sexually reproduces in the presence of grain and seed oils. So, their new diet would have fed its growth.

I was inspired to write this book by my late bother Ken. He had a personality change at age 12, after playing with a feral cat all summer. Later, he was diagnosed with schizophrenia, and then bipolar. One summer, he seemed almost normal. He told me that all he was eating was chicken and carrots, and drinking some Pepsi. Ken had discovered he felt much better with a lower carb diet. I researched how Ken’s diet might affect t. gondii infection, and found much evidence that diet plays a large part in either supporting its growth or controlling it, and thus its effects. I truly hope that Ken’s discovery will help others find the relief they need. 5



1. SYMPTOMS OF TOXOPLASMA INFECTION



Per the CDC, only 11% of Americans are infected with *t. gondii*. But, according to one estimate, 40% of American adults may be infected, also rate of infection increases with age. Researchers say *t. gondii* is “likely underdiagnosed” because it’s a non-reportable disease (except in 8 states), even though it’s a sexually transmitted disease. Plus, nearly all infections of infants and immunocompetent people are asymptomatic or mimic flu or Lyme, so few infected people are even tested.

This really needs to change, because...

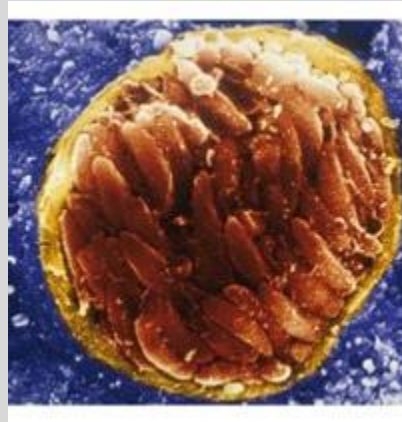
**...t. gondii is linked to
MANY HEALTH PROBLEMS!
Yet the only time they
routinely test for it is in
conjunction with HIV and
symptoms of AIDS.**

Neurological: anxiety, aggression/intermittent explosive disorder, schizophrenia/hallucinations, OCD/eating disorders, hyperactivity/ ADHD, autism/Asperger's, dyslexia, epilepsy, anti-social personality disorder, suicide/self-harm, major depressive disorder, hypersexuality, addictions, bipolar/mania, paranoia, masochism, Alzheimer's, learning disorders, accidents/risky behavior, sleep disturbances, alcoholism, spasticity, high/low intelligence, auras/migraines, smoking, narcolepsy

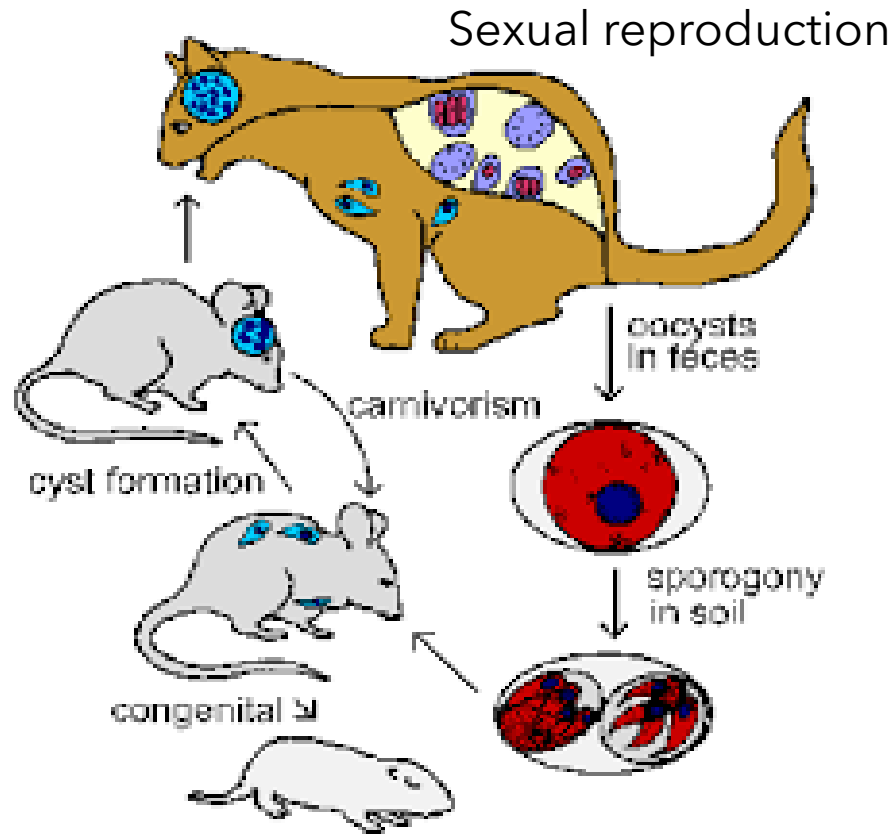
Physical: stillbirths/miscarriages, cataracts/vision defects, PCOS/ infertility, cancer, diabetes, obesity, asthma, AIDS, thrombocytopenia, anemia, hydrocephalus, heart attack/stroke/ heart failure/myocarditis, rheumatoid arthritis, muscle atrophy, hearing loss

“The typical symptoms associated with toxoplasmosis are anxiety, autism (including Asperger’s), schizophrenia, ADHD, OCD, antisocial personality disorder, and learning disabilities.”

"T. gondii is a brain parasite that infects essentially all cats that spend any time outdoors." -FDA



Toxoplasma cysts, pictured here, protect it from the immune system. Some components of cysts are chitin, the fat arachidic acid (a rare fat only in peanuts, chocolate, coconut, and corn), and oligosaccharides (in plant fiber). But in mice that can't make cysts, t. gondii was destroyed! So, its ability to make cysts enables life-long infection, with its potential for re-activation.



Mice eat contaminated feces. *T. gondii* then forms cysts in the retina and brain.

Cats are hosts, mice are the target for infection.

T. gondii infects the brain in the ventromedial hypothalamus (satiety, sexuality) and the amygdala (sexuality, emotion, fear), then spreads to **92% of the brain**, and the retina, muscle, and heart. It over-stimulates the nervous system with glutamate, and **increases activity and sexual arousal** by making dopamine. It also increases oxytocin and the potent testosterone DHT. Its overstimulated brain distracts the mouse from its survival instinct with sexual urges for cat urine, plus it becomes hyperactive. This is called "fatal attraction", and toxoplasma completes its life cycle.

Rapid initial infection, then life-long

- UNWASHED CONTAMINATED FRUITS OR VEGETABLES (the main cause at this time)
- CAT LITTER AND DOG FUR: cysts are infectious after 5 days (100% outdoor cats infected).
- UNDERCOOKED MEAT, RAW OYSTERS: Pork used to be high in t. gondii.
- IN SOIL (GARDENING) OR SAND BOX: greater infection in children in day care (Estonia study)
- SEXUALLY TRANSMITTED DISEASE OR VIA BLOOD: oral sex with infected partner, shared needles?
- POSSIBLY TICKS: psychiatric symptoms with Lyme only found with toxoplasma co-infection

USUALLY ASYMPTOMATIC! Initial symptoms include of acquired infection can include:

- Chronic headache/migraine (main clinical manifestation)
- Swollen lymph nodes
- Vision defects
- Sore throat, fever
- Muscle/joint pain, fatigue

These subside to a life-long latent infection with t. gondii cysts. But, depending on where the cysts are, many symptoms continue because, even as a latent infect, they increase stimulating hormones?

- **DOPAMINE:** insomnia, talkative, movement/action/hyperactivity, motivates pleasure, activates copulation, dogmatic, hypervigilant, narcissism, euphoria, hallucinations. *T. gondii* lowers dopamine receptors, so is linked to addictions. *T. gondii* decreases enzyme MAO-A, which breaks down dopamine, serotonin (need for impulse control, sleep), adrenaline, noradrenaline, and amines in food. Thus, low MAO-A can cause aggression and impulsiveness, and is linked to ADHD, autism, and anti-social personality disorder.
- **ADRENALINE:** light sensitivity, blurry vision, vision loss, induced by fear, enhanced long term memory-PTSD, "fight or flight" nervous system and brain wave pattern, high blood sugar, high blood pressure
- **DHT TESTOSTERONE:** . DHT (3-6 times more potent than testosterone, released at puberty), acne, strong muscles/bones, sexuality, intelligence, mood swings, high in PCOS/body hair/infertility, depression, anxiety
- **OXYTOCIN:** "love hormone", but an excess released during "fight or flight" causes aggression, jealousy, hypersexuality, pleasure at another's misfortune, fearfulness, daydreaming/dissociative/identity disorders, OCD, and emotional oversensitivity/"empath". As a female hormone, oxytocin can cause enlarged breasts.
- **GLUTAMATE:** glutamate is made into calming gamma-butyric acid (GABA) in the brain and in pancreatic beta cells, but *t. gondii* blocks this by blocking acetylcholine NMDA receptors. This causes high extracellular glutamate/low levels of GABA, and raises toxic ammonia. High glutamate/low GABA stimulates thinking, but also amplifies senses and pain perception, and causes mania, seizures, and delusions (glutamate blocks potassium channels, which overstimulates the brain and can cause seizures, while GABA opens them). In the pancreas, glutamate damages insulin-producing beta cells, while GABA protects the beta cells.
- **VASOPRESSIN:** long-term memory, increases water and sodium retention/blood pressure. Also increases aggression related to mating. Is high with schizophrenia, autism, major depressive disorders, and bipolar.

T. GONDII ALSO LOWERS CALMING HORMONES GAMMA BUTYRIC ACID (GABA) AND ACETYLCHOLINE:

GABA is low and glutamate is high with many t. gondii-related disorders, including:

- Anxiety disorders, including OCD, and depression, schizophrenia, autism, Asperger's, Tourette's, hyperactivity, ADHD, sleep disturbance, epilepsy, PTSD, social anxiety disorder, bipolar, both in depressed and manic states, and aggression, type 1 diabetes (GABA protects beta cells, but is low in the pancreas with T1 diabetes).

Gut bacteria play a major role in GABA production, and this varies by diet: people who eat more meat are high in bacteroides gut bacteria, and people who eat more plant foods are high in prevotella. Notably, **bacteriodes is low and prevotella is high with t. gondii infection.** This affects GABA production, because bacteroides plays a "monumental role in the production of GABA." This may be because bacteroides is needed for production of butyric acid (major ketone of the body) by f. prauznitzii, and GABA (gamma-**butyric acid**) is made up of butyric acid! In major contrast, prevotella lowers production of butyric acid but makes mainly acetate. Notably, researchers found very little bacteroides in depressed people. Furthermore, t. gondii consumes acetate! So, a high carb diet feeds prevotella, which then feeds t. gondii. This may explain why high prevotella, but low bacteroides, is found with t. gondii.

LOWERS ACTIVITY OF ACETYLCHOLINE: the steady state neurotransmitter which "harmonizes all other frequencies", induces the all-important "alpha state", is needed to stay calm and reasonable, and for learning. Acetylcholine also relaxes arteries for normal, healthful blood flow, and is needed for digestion. Nicotine activates the nicotinic **acetylcholine** receptor, which could explain smoking addiction with t. gondii.



2. CONGENITAL OR ACQUIRED INFECTION



“Up to 4,000 cases of
congenital toxoplasmosis
occur in the United States
each year”.

“Up to 90 percent of babies born with congenital toxoplasmosis experience **no immediate symptoms.**”

By the 3rd trimester, a pregnant woman with active toxoplasmosis has 60% chance of infecting her child.

EPILEPSY: “**Seizure is one of the main presenting symptoms in patients with CNS infection of congenital acquired toxoplasmosis** and many with congenital toxoplasmosis took anti-epileptic drugs (AED) constantly.” Very fast gamma brain waves occur before a seizure. This is similar to the greater amount of gamma waves found with OCD, and people with epilepsy often have OCD as well.

One sign of infection is premature birth or low birth weight. Congenital infection can result in stillbirth, microcephaly, retinal damage, hydrocephalus – a buildup of cerebrospinal fluid in the brain, and intracranial calcifications. These indicate areas of the brain that have been damaged by the parasite, and are often linked to intellectual disabilities, seizures and spasticity, motor and developmental delays. It can cause deafness in the fetus and is an important cause of infant morbidity and death worldwide. Up to 80% develop visual disability later in life.

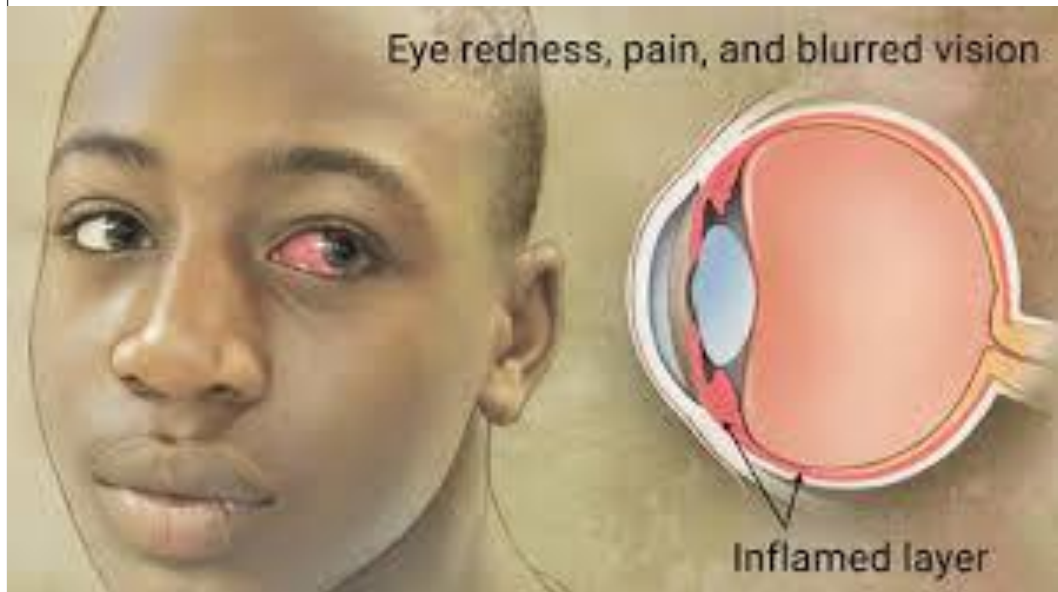
As the baby grows, more symptoms appear, like learning disabilities, swollen lymph nodes, bruises, jaundice, anemia, enlarged liver/spleen. Early puberty is another sign of congenital toxoplasmosis. Notably, early puberty occurs in girls with PCOS, schizophrenia, and autism, including Asperger's.

Vision Defects-congenital and acquired

- Floaters, blurry vision, reduced central vision
- Uveitis
- Blindness
- Strabismus (cross-eyed)-can be single symptom of t. gondii infection
- Cataracts (occur more frequently with a high carbohydrate diet)
- Glaucoma/ocular hypertension
- Retinal detachment (as occurs with diabetes)
- Vascular occlusion
- Macular edema
- Optical atrophy
- Nystagmus (rapid eye movement)

Toxoplasmosis Uveitis

- *T. gondii* brain infection begins in the retina
- Causes inflammation and damage, redness, pain, blurry vision, photophobia, retinal neovascularization (retinal detachment, as occurs with diabetes) and macular edema.
- Up to 18% of infectious uveitis cases and **10% of legal blindness in the U.S. are caused by *t. gondii***. Diabetics, especially type 1 diabetics, have higher risk for uveitis.
- "1 in 400 persons across the world might have posterior uveitis due to *Toxoplasma gondii*."



Hearing Defects-congenital and acquired

- Hyperacusis, which is an excessive sensitivity to a range of sounds. This can include tinnitus. Hyperacusis is associated with schizophrenia, autism, ADHD, Asperger's, anxiety, and depression.
- Hyperacusis is associated with magical thinking: that personal thoughts and desires influence and manipulate the external world (a "psychotic-like thinking style"). Researchers suggest that hyperacusis, coupled with magical thinking, may predispose one to auditory hallucinations.
- Hearing loss, deafness
- In addition, neuroinflammatory processes of t. gondii cysts in the olfactory bulb may cause the **altered sense of smell** often found with Asperger's/ autism, schizophrenia, and migraine headaches, as well as finally leading to the loss of smell in Alzheimer's. Along these lines, people with t. gondii infection are nearly 5 times more likely to have autism or Asperger's.

Bile, Crohn's, gut bacteria, depression/suicide

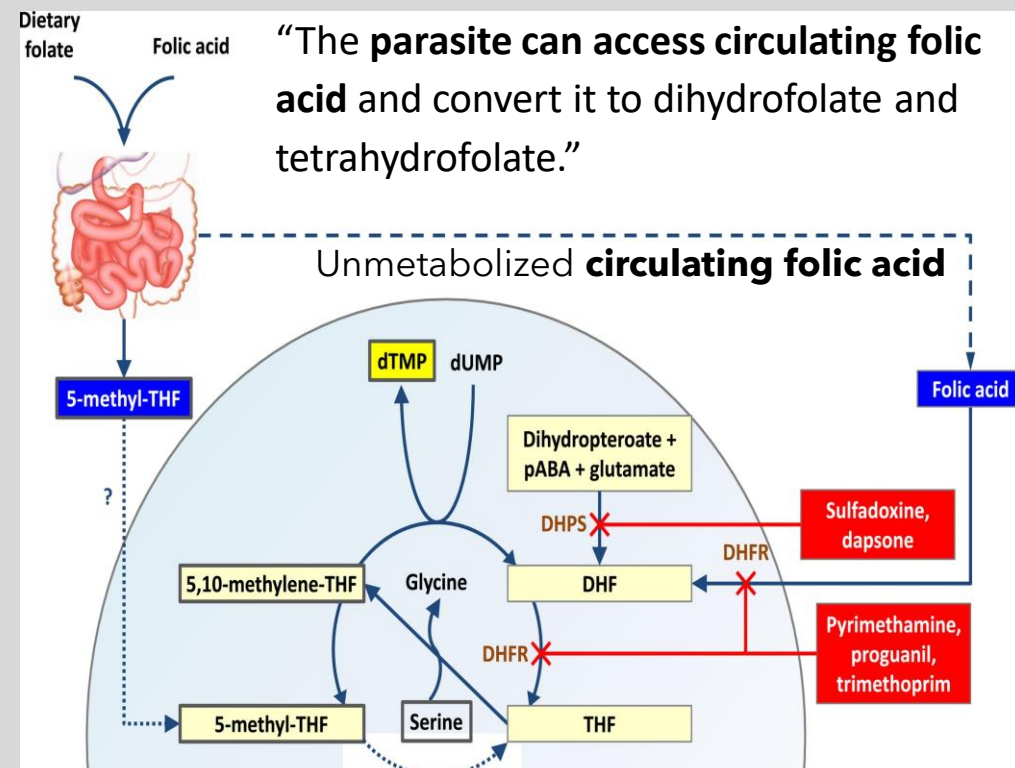
- T. gondii enters orally. Stomach acid HCl and bile destroys t. gondii, including cysts, but you need dietary fat to induce bile. Bile acid is also needed for vitamins A, D, E, and K, and D, and vitamin D deficiency increases t. gondii infection! If not destroyed, intestinal inflammation from t. gondii can be like Crohn's, plus people with IBD are more likely to be infected. People with Crohn's are also more likely to have uveitis, commonly caused by t. gondii. T. gondii increases prevotella and lowers bacteroides gut bacteria. This ratio is also found with people who eat more grain, while prevotella is low and bacteroides is high in people who eat more meat and fat! So, perhaps this gut bacteria ratio occurred along with t. gondii when we first ate grains. Along these lines, eating fat induces bile. Bacteroides is bile-resistant, so it's higher with a high fat diet, but prevotella, like t. gondii, is destroyed by bile. So prevotella, like t. gondii, survives with a high carb diet.
- Low firmicutes and bacteroides/high prevotella is found with major depressive disorder, which is also linked to t. gondii. "People with higher positivity rate of T. gondii antibody are 3 times more likely to be depressed." There are other causes today for depression, like various chemicals and meds, as well as heavy metals. But, among people with depression, people with t. gondii are 8 times more likely to commit suicide. In addition, people with IBD and Crohn's are more likely to be depressed or anxious. Besides lowering serotonin, t. gondii causes chronic brain inflammation, which damages neurons. Depression and anxiety are more common among young people, and are often treated with SSRI's, which increase serotonin, but can also cause mania, and have been linked to mass shootings. So, alternative treatment is needed.

Anorexia, muscles, joints (RA), gut bacteria

- If *Toxoplasma* cysts are in muscle and joint tissue, they can cause myositis-muscle damage, muscle and joint pain, polyarthritis, frequent falling, swelling of the feet and legs, fatigue, and trouble swallowing. *T. gondii* infection in mice was shown to cause anorexia, muscle/fat wasting, fatigue, lack of appetite.
- In contrast, the high levels of testosterone as converted into DHT, which occur with toxoplasmosis, increase muscle strength and athleticism. Increased height is also found with congenital *t. gondii* infection. So, the effect depends on when and where the infection takes place.
- Researchers found that people with rheumatoid arthritis have more than 3-fold higher risk for *t. gondii* infection. The researchers said “*t. gondii* may trigger a pathological process...which can ultimately lead to RA”. In addition, people with RA are high in INF-g, which initiates and perpetuates inflammation and autoimmune disease, and INF-g is induced by *t. gondii* cyst chitin. Also, *prevotella* gut bacteria induce the inflammatory Th17 immune response that drives RA, and *prevotella* is higher and *bacteroides* is lower with both *t. gondii* infection and with RA. *Prevotella* is also high with type 1 diabetes, pneumonia, sinusitis, ear infections, schizophrenia, gingivitis, and HIV, and is linked to obesity and high blood sugar. *T. gondii* also increases abdominal fat, likely due to the chronic inflammation it causes, according to researchers.
- Methotrexate, an RA and cancer treatment, blocks the same folic acid pathway that's blocked by *t. gondii* treatment, as shown on the next slide.

Active t. gondii treatment

Synthetic folate (folic acid) in fortified flour, cereals, and vitamins (especially prenatal) is slowly made into usable folate by the DHFR enzyme. Folate is needed by t. gondii for DNA synthesis and replication. So, it converts unmetabolized folic acid into folate, by its own DHFR enzyme, and anti-folate pyrimethamine treats t. gondii by blocking DHFR. This results in "decreased production"-as reported for malaria parasite, treated with same anti-folate. According to researchers, **unmetabolized folic acid may spread infection of** malaria, **t. gondii**, and cancer! Anti-folates treat RA and cancer, both linked to t. gondii. So, efficacy of anti-folates for cancer and RA may be from, for some, controlling t. gondii. Anti-folates have serious side effects, and they just inactivate, not eliminate, t. gondii.



Since folic acid causes parasite growth, "**high circulating folate** (folic acid)" from fortified flour "**may have far-reaching implications for the safety of flour fortification**", as well as prenatal vitamins, for congenital Toxoplasmosis.

Toxic glutamate, cancer

Glutamate is the main excitatory neurotransmitter and GABA is the main inhibitory neurotransmitter. In the brain and pancreas, glutamate is made into GABA. *T. gondii* increases glutamate and lowers GABA.

Glutamate activates NMDA receptors (for learning) at the glutamate site, but *t. gondii* causes an excess of glutamate. This may explain the many highly intelligent people with *t. gondii*-related disorders. But too much glutamate/low GABA causes headaches, anxiety, mania, compulsive behaviors, seizures, stroke, movement disorders/clumsiness, pain, acne, and disturbed digestion. Glutamate from *t. gondii* "triggers neurological disease in those genetically predisposed". NMDA receptors are blocked by many common drugs: alcohol, SSRI's, ketamine, anti-histamines, barbiturates, antipsychotics, DXM, and anticonvulsants.

NMDA receptors have another activation site-for glycine or serine. Importantly, when the glycine site of the NMDAR is occupied by glycine (such as D-methyl glycine) or by serine, it moderates the NMDAR response to glutamate. Thus, D-methyl glycine has been found to be helpful with cognition, schizophrenia, autism, and seizures. Notably, glycine and serine can be taken as supplements before bed for a restful sleep.

Eventually, excess glutamate from *t. gondii* can cause astrocytes to make antibodies to NMDA and acetylcholine receptors by making kynurenic acid. This causes memory loss and dementia. Dysfunctional NMDA receptors are found with AIDS, schizophrenia, suicide, Alzheimer's, Lyme encephalopathy, autism.

Glutamate damages cells, so is a cancer "growth factor", and toxoplasma was associated with a 1.8-fold increase in brain tumor risk. Toxoplasma also raises risk for breast, uterine, and lung cancers, and, as mentioned, anti-folate chemotherapy blocks the same enzyme that *t. gondii* treatment does.

Type 1 and Type 2 Diabetes, fatty liver, PCOS

Type 1 diabetes: Type 1 diabetes may be caused by an infection. In a study, risk of toxoplasmosis was 4.2-fold higher with T1D. *T. gondii* was found in the insulin-producing beta cells in islets of Langerhans in the pancreas in acutely infected mice. In these mice, infection led to "significant reduction" in islets and in insulin. This may be from *t. gondii*'s increase in toxic glutamate and decrease in GABA (normally protects beta cells), and T1 diabetics are low in GABA. *T. gondii* feeds on acetate and increases ketones, so the ketones it increases may be acetone. Acetone is high with T1D, causing the fruity breath of ketoacidosis. Increased *Prevotella* gut bacteria is found with *t. gondii*, and T1 diabetics have increased *Prevotella copri*. T1 diabetes was first recorded in Ancient Egypt, and the physicians advised diabetics to avoid grains! T1 diabetics have higher risk for epilepsy, depression, anxiety, eating disorders, ADHD, and autism, which are associated with *t. gondii*. Also, one of the first symptoms of T1D is blurry vision, a symptom of infection with *t. gondii*, and T1 diabetics have 2-fold higher risk for uveitis, a common symptom of *t. gondii*.

Type 2 diabetes: *T. gondii* is more prevalent with type 2 diabetics. One study found 72.5% of T2DM patients were positive for anti-*T. gondii*. Also, high levels of insulin, released in response to high blood sugar, "rapidly" increased the replication of *t. gondii* and reactivated latent infection. *T. gondii* also increases risk for hypertension with diabetes. Bipolar, depression and schizophrenia are comorbidities. Liver impairment, like fatty liver, contributes to the development of insulin resistance and T2 diabetes. *T. gondii* can infect the liver, and *t. gondii* infection is higher with liver cancer, hepatitis, cirrhosis and fatty liver. Women with PCOS have high levels of testosterone/DHT, as *t. gondii* causes. This leads to insulin resistance, obesity, and diabetes, and 50% have diabetes before age 40. So, *t. gondii* may be a factor in causing PCOS.

Heart defects, heart attack/failure, stroke, lungs

Cysts are commonly found in the heart. If toxoplasma cysts in the heart are activated, they can cause rapid heartbeat, myocarditis (heart inflammation and damage), and pericarditis. This leads to heart failure, blood clots, heart attack, and stroke. "Some studies have shown increased levels of...epinephrine, norepinephrine, and dopamine in patients with HF", and toxoplasma increases these hormones. The heart and muscles require ketones made from dietary fat for 60-90% of its energy, so the same high carb and lowfat diet that feeds toxoplasma contributes to heart failure as well. In contrast, a ketogenic diet, not only generates a high level of ketones, but it also reverses the HF problem of sodium retention.

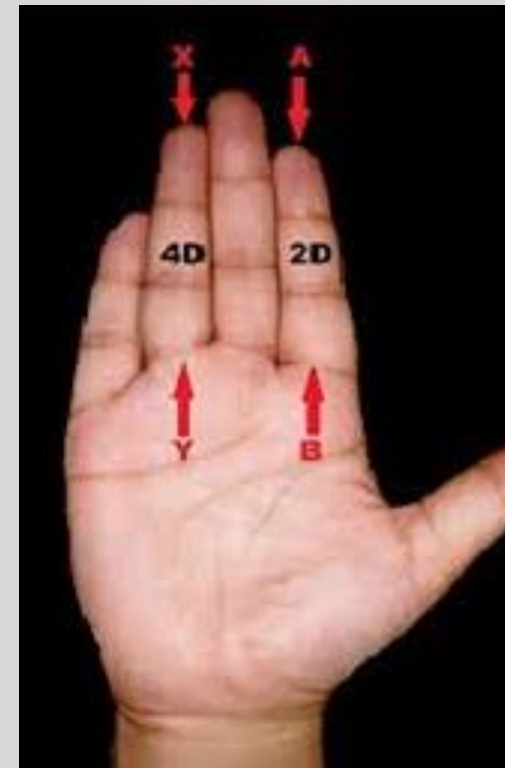
With congenital infection, pneumonia, as well as intracranial "calcifications, enlarged liver and spleen, myocarditis and severe CNS lesions (encephalitis) can be observed." Also, ventricular septal defect (most common congenital cardiac anomaly) and periventricular vasculitis.

In a study of 72 lung cancer patients, each one had t. gondii in their lungs! Plus, t. gondii is associated with many disorders where people are likely to smoke, like anxiety, schizophrenia, and bipolar, and t. gondii is higher among smokers. Methotrexate chemotherapy for cancer blocks the same enzyme that pyrimethamine, the treatment for t. gondii, blocks, so the effectiveness of chemotherapy may be in part that it controls or destroys t. gondii.

Cystic fibrosis is linked to toxoplasma, as t. gondii blocks chloride secretion (basic problem with CF), which normally protects against the pseudomonas lung infection that causes death with CF.

T. gondii causes high testosterone and DHT in the womb

Congenital infection with *t. gondii* causes high prenatal testosterone and DHT. This masculinizes the fetus' brain with right hemisphere dominance. This causes a low 2D:4D ratio of finger length, which is found in males and females infected with toxoplasma. Low 2D:4D ratio is found with autism (Asperger's and ADHD), epilepsy, bipolar, heart failure, addictions, female athletic excellence, homosexuality, gender-identity disorder, lower empathy and eye contact, and suicide, and *t. gondii* is associated with each of these.



TOXOPLASMA AND "TIGER KING"

In an analysis of the Netflix series "Tiger King", a psychologist suggests that *t. gondii* infection might explain the narcissism, animal hoarding, entrepreneurship, accidents, polygamy, risk taking, and aggression evident throughout the series. Notably, in studies, women were more likely to be murderers (a possibility here), and men infected with toxoplasma were sexually attracted to cat urine. Along these lines, a secretion from the anal glands of both male and female civet "cats" has been used for perfume as early as Shakespeare's time, and its poop is used for coffee! So, the allure of both may be related to *t. gondii* infection.



In addition, infected men engage in more homosexual acts and have greater sexual arousal, while infected women often act like "sex kittens", and have more pregnancies. Infected men and women are even rated as more attractive than those not infected!

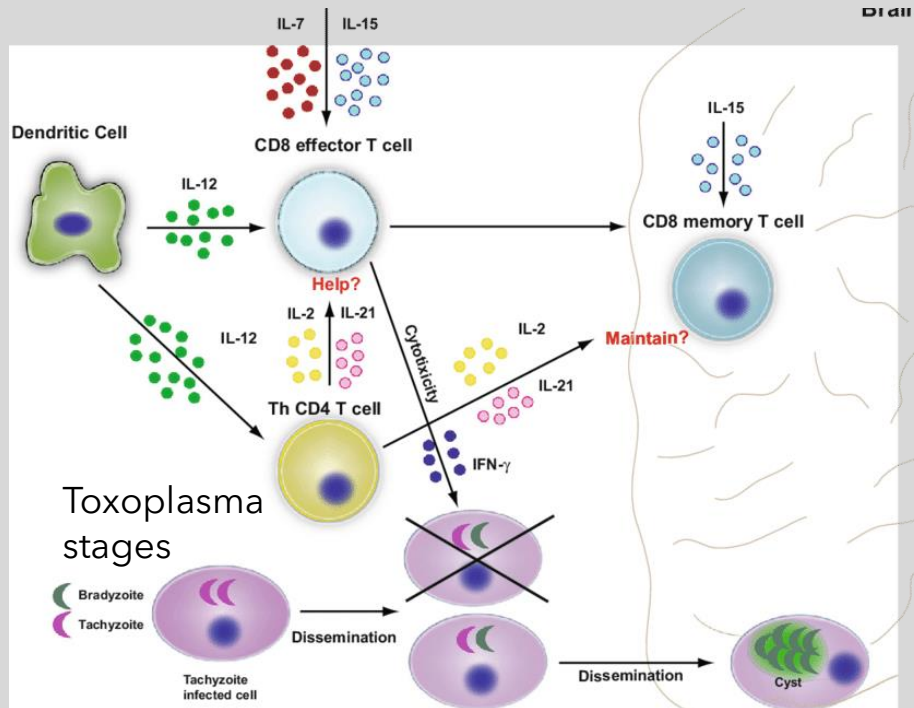


3.HIV AND COMPROMISED IMMUNITY

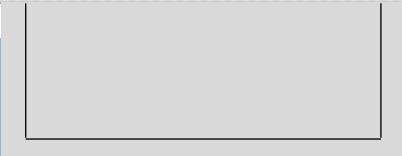
"Toxoplasmosis is the
commonest cause of
CNS infection in people
with HIV/AIDS."

Immune system response

T. gondii begins in cat feces as oocysts. When these are ingested, *t. gondii* quickly replicates throughout the body as tachyzoites, crossing the intestines, placenta, and blood-brain barrier via infected cells. Tachyzoites are attacked by CD8 cells, which need CD4 cells to activate them. CD8 cells also destroy viruses and bacteria. However, unlike bacteria and viruses, *t. gondii* suppresses CD4 cells. Then, it forms cysts which enclose slowly replicating bradyzoites, for a lifelong latent infection. CD8 cells continuously prevent cyst re-activation into tachyzoites. However, since toxoplasma suppresses CD4 cells, **CD4 cells become "exhausted" over time, so CD8 cells can't be activated**. In this way, *t. gondii* becomes re-activated, causing major problems. Depleted CD4 cells and toxoplasma-induced AIDS encephalitis, which occurs from low CD4, is an example of this problem.



- *T. gondii* is associated with homosexual acts and oral sex, and is spread sexually or via blood. So it may be common in gay men and drug addicts (as found in Iran). This would put them at risk for toxoplasmic encephalitis (TE)/AIDS. There are other pathogens that induce AIDS, but "TE appears to occur almost exclusively because of reactivation of latent tissue cysts". So, people with TE weren't newly infected due to a poor immune system-they were already infected. With new treatments, TE is less common, but more than 50% with HIV still have anxiety or major depressive disorder, which can be caused by *t. gondii*.
- *T. gondii* infection begins in the gut. Children and adults with HIV have similar gut bacteria as with *t. gondii*: high *prevotella*/low *bacteroides*. *Prevotella* are increased with grains and legumes, which humans first began to eat when *t. gondii* first evolved, while *bacteroides* is increased by meat and fat. So, the new high grain/low meat and fat diet would support *t. gondii* with oligosaccharides (which are in its cyst wall), glucose, and arginine, along with less arachidonic acid to destroy it (see chapter 5). Furthermore, grains and legumes contain lectins, and lectins enable pathogens, like HIV and toxoplasma, to attach to a cell for infection. Also, high *prevotella* corresponds with reduced CD4 in the gut. So, eating grains and legumes increases *prevotella*, while lectins, a high carbohydrate diet, and arginine enable infection with both HIV and toxoplasma.
- An alternative theory: HIV originated in apes in Cameroon, with one of the highest *t. gondii* infection rates. Interestingly, HIV researcher James Hildreth proposed that HIV is an exosome (immune system component) that was formed, in the ape, in response to a pathogen. Exosomes actuate immune system components. Viruses look and act like exosomes. Exosomes against *t. gondii* would activate CD4 to destroy *t. gondii* via CD8. But, an exosome that was made by an ape, in response to *t. gondii*, inside a human, would be engulfed by CD4 instead, as this is the immune system's way to dispose of foreign objects. With CD4 engulfing it, "HIV" would DE-activate CD4. Lack of CD4 would increase *t. gondii* replication in those infected. So, looking at HIV as an ape exosome against *t. gondii* explains the connection between HIV, CD4, and *prevotella*.



Re-activated latent toxoplasma infection due to compromised immune systems can be "severe". Symptoms can include paranoia, aggression, poor memory, abnormal movements, and hallucinations, resembling schizophrenia. T. gondii in transplant patients is "often fatal".

"A common treatment for inflammatory disorders is immunosuppressive or anti-inflammatory drugs, to slow down disease. But, with infections underlying neuroinflammation, immunocompromised individuals are at risk for **reactivation of T. Gondii**."

Immunosuppressive drugs include steroids, like cortisone and birth control hormones, and both increase risk for t. gondii. Since birth control pills are taken by women of child-bearing age, this could increase risk for congenital toxoplasmosis.

Long COVID and toxoplasma gondii

Inactive CD8 cells, as caused by *t. gondii* CD4 cell depletion, increases COVID-19 vulnerability, and re-activates *t. gondii*. "A large fraction of patients, after their COVID-19 viral infections, suffer several neurological and psychological symptoms of Long COVID-19 for several months, including: fatigue, dyspnoea (labored breathing/shortness of breath), anosmia (impaired sense of smell), dysgeusia (impaired sense of taste), chest pain, joint pain, hair loss, memory and attention deficits, anxiety, depression, and sleep disorders. It is significant that **virtually all of the diverse and distinctive symptoms of Long COVID-19 can be explained as symptoms of toxoplasmosis in patients having reactivated *T. gondii*.** Toxoplasmosis patients suffer a wide variety of symptoms, including dyspnoea, fevers, seizures, headaches, changes in vision, altered mental status, focal neurological deficits, mental confusion, cognitive dysfunction, ataxia, behavioral or psychomotor changes, involuntary movements, pneumonia, and a spectrum of cranial nerve palsies. Several distinctive Long COVID-19 symptoms can be matched if toxoplasmosis induced cranial nerve palsies affect the functions of the 12 cranial nerves, creating symptoms including anosmia from a palsy of the olfactory nerve (I), vertigo (dizziness), tinnitus and otalgia (earache) from a palsy of the vestibulocochlear nerve (VIII), and dysgeusia from palsies of the facial nerve (VII), glossopharyngeal nerve (IX), and vagus nerve (X)."


A ketogenic diet would help with COVID-19, as the main ketone made in the body, BHB, inhibits NLRP3 inflammasome, which is "at the crux of severe COVID-19" fatal symptoms.



4. MENTAL ILLNESS AND NEUROLOGICAL DISORDERS

Chronic Latent Infection

After initial infection, *t. gondii* forms impenetrable cysts around the parasites. Cysts are made of carbohydrates and chitin, which induces the inflammatory immune system and INF-gamma. "Historically considered a latent stage and only associated with pathogenesis in the immunocompromised host, recent data has demonstrated that bradyzoites (*t. gondii* cysts) continue to replicate, and the **chronic stages have become more clinically significant.**"



"The burgeoning number of associations of latent infection with *T. Gondii* with various **neuropsychiatric disorders** suggest that **the impact of this pervasive parasite on global populations has been greatly underestimated**. ...No effective treatment for latent infection."

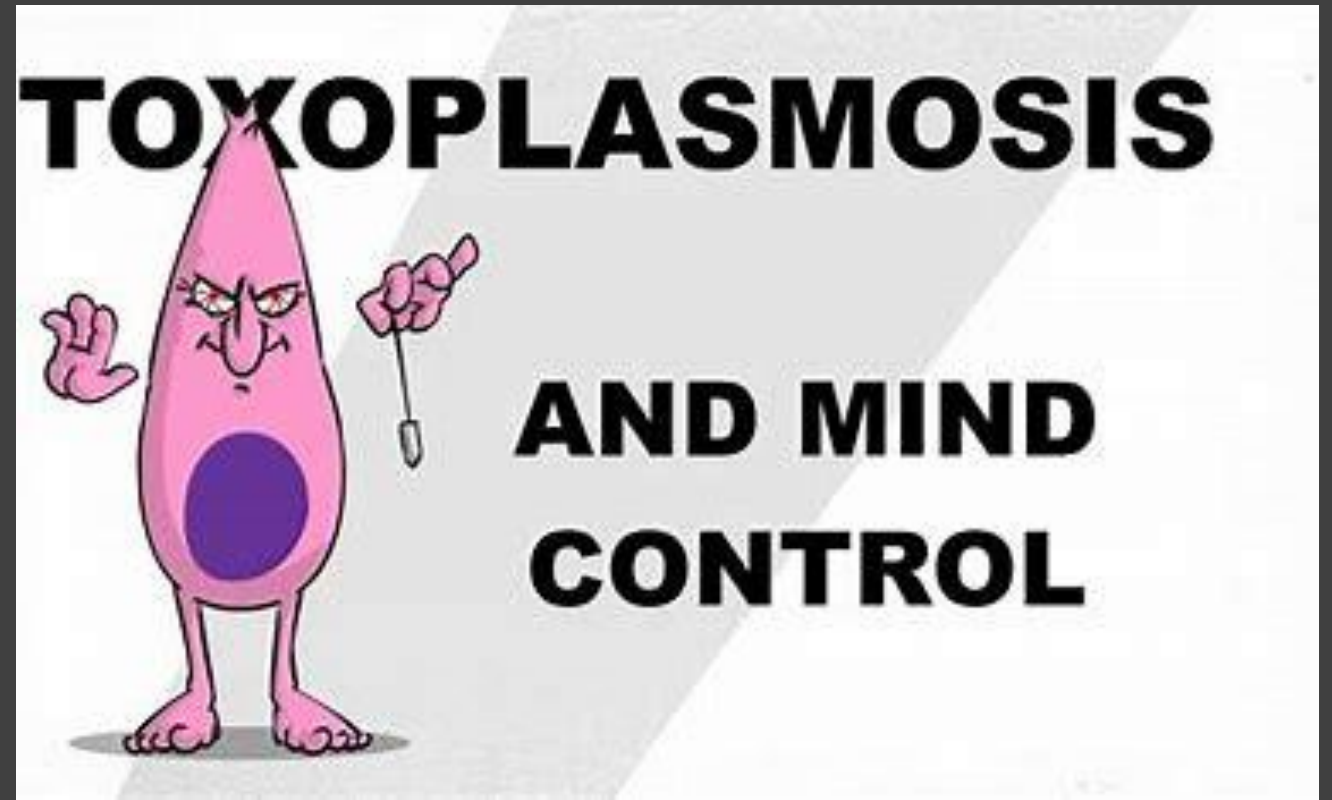


Acquired infection and mental illness

With acquired infection, the highest density of *t. gondii* cysts is in the hippocampus (learning, memory, new neurons, spatial navigation, executive functions, is connected with emotional behavior).

Not surprisingly, the hippocampus is impaired with *t. gondii*-related disorders: Asperger's, ADHD, epilepsy, major depressive disorder, bipolar, obsessive compulsive disorder, PTSD, Alzheimer's, schizophrenia, anti-social personality disorder, borderline personality disorder, and even with type 2 diabetes. Plus, seizures "often begin" in the hippocampus, and there is increased hippocampus neuron excitability with anxiety.

"Latent infection can induce behavioral manipulations in humans."



"T. gondii might indeed be capable of transforming us into zombies of a sort, with compromised free will, a predilection for mental illness, and a greater risk of early death by suicide." Joe Pierre, MD

Schizophrenics often sense “alien control” over their thoughts and movements, as well as separation of “self” from reality-the world they see around them. When “alien control” occurs, their **parietal cortex** is overactive. Notably, this is one of two parts of the brain where latent t. gondii preferentially re-activates (the other part is the **frontal cortex**). There’s more activity in these areas during “higher reasoning” and in studies focusing on “self”. Thus, the parietal cortex enables **self-awareness** and working memory, and is where “perception meshes with physical reality”. **The parietal cortex is over-active with bipolar, anxiety and autism**, giving a strong sense of self, in which depersonalization can occur. Also, an over-activated right temporo-parietal junction, which is also activated with t. gondii, can trigger disembodiment, and the lack of empathy seen with autism, Asperger’s, and borderline personality disorder is caused by “decreased use” of this junction. Notably, the myelin of the temporo-parietal junction, which protects from infection with t. gondii, is impaired with autism and borderline personality disorder, perhaps by chemicals. With autism and Asperger’s, both parts of the brain where t. gondii is mainly re-activated are over-active.

Over-activity of these areas of the brain increases dopamine and toxic glutamate, and both are increased with t. gondii. Researchers think this damage from t. gondii “triggers” Parkinson’s, epilepsy, and Alzheimer’s. “Disconnection of **frontal and parietal** areas contributes to impaired attention in very early Alzheimer’s”. The frontal cortex is also impaired in people who have Parkinson’s, epilepsy, Tourette’s, Alzheimer’s, and HIV encephalopathy, which is “one of the most serious complications” of HIV. Eye movement is also controlled by the frontal lobe, and eye coordination is impaired with schizophrenia, autism, Alzheimer’s, and seizures. Meditation lowers activity in the parietal cortex, so it can provide some relief. However, meditating can also cause depersonalization, which “can become an apparently permanent mode of functioning”. So, it’s important to control t. gondii, and provide nutrients to fix myelin, with an ancestral foods ketogenic diet.

Schizophrenia, glutamate, and kynurenic acid

Schizophrenics have 2.8-fold higher risk for *t. gondii* infection, and they have higher *t. gondii* antibodies. Exposure to cats as a child, and *t. gondii* infection in mother or father, are risk factors for schizophrenia.

The main symptoms of schizophrenia are social withdrawal, apathy, lack of emotional expression (dissociation from feelings), disorganized thinking, delusions, and hallucinations (usually auditory). Other conditions that schizophrenics have are substance use disorders, OCD, major depressive disorder (schizoaffective disorder), seizures, diabetes, and anxiety (can be paranoid schizophrenia).

T. Gondii causes an increase in dopamine and kynurenic acid (KA), and schizophrenics are high in both dopamine (but low in some parts of the brain) and KA. KA causes psychosis by blocking NMDA receptors, which occur in high density in the hippocampus (learning, memory, executive functioning), and this is where *t. gondii* also is present in high density! KA also lowers serotonin, blocks PGE2 (protects gastric mucosa), lipoxin (resolves inflammation), and thromboxane (clotting). Delusions and hallucinations of schizophrenia are similar to toxoplasmic encephalitis occurring with HIV, as well as to Alzheimer's, and both are high in KA.

Notably, the drug **haloperidol**, which treats schizophrenia, mania, and Tourette syndrome, and the epilepsy drug **valproic acid** ("extensively used to treat seizures, migraines, agitation, and bipolar disorders"), were found to **prevent *t. gondii* replication**! Along the same lines, electric shock therapy is an alternative treatment for killing parasites, including *t. gondii*, so the electric shock therapy used for schizophrenia may have its good effect, in part, due to destroying or controlling *t. gondii*.

Schizophrenia, parietal lobe, and retina

There are various brain abnormalities with schizophrenia, such as the hippocampus, which is reduced. In the hippocampus, there's abnormal glutamergic circuitry, causing long-term memory problems. However, it's "unclear whether hippocampal alterations play any role in causing the psychotic symptoms". But, the parietal cortex, where *t.gondii* preferentially reactivates, may be more important, as researchers found that, with children diagnosed with schizophrenia, "abnormalities start in the parietal and occipital lobes." Lesions in the parietal lobe cause "lack of insight" and dissociation.

In addition, researchers have recently discovered the major role that abnormalities of the retina (back of the eye) have on these symptoms of schizophrenia. "Recent ERG and OCT studies continue to support the hypothesis of retinal structural and functional abnormalities in schizophrenia, and suggest that these are relevant to understanding broader aspects of pathophysiology, neurodevelopment, and neurodegeneration in this disorder." For example, retinopathy, which *t. gondii* can cause, also occurs with schizophrenia, and the way the retinopathy treated is with schizophrenia drugs. The importance of retina abnormalities in schizophrenia may be very relevant to toxoplasma, since toxoplasma commonly infect the retina, causing inflammation and damage.



Abnormalities of the retina may even play a large part in causing visual hallucinations, as they cause schizophrenics to literally see distorted pictures of reality. Thus, "a fixed gaze, increased blinking, limited exploratory eye movements, and strabismus (at birth or acquired) may point to schizophrenia." "Strabismus (cross-eyed) causes vision changes, such as double vision, blurry vision, or a loss of depth perception." There are also changes to the cornea.

As a result, schizophrenics have increased perception of brightness and color intensity, which diminishes their ability to see contrast. There's also decreased macular volume and thinning of the retinal nerve fiber. In fact, eye irregularities are so important with schizophrenia that **the ability of schizophrenics to track an object predicted schizophrenia 100%!**



HYPERACUSIS

Many schizophrenics also have excessive sensitivity to sounds, or hyperacusis, and are prone to tinnitus. These are symptoms of t. gondii ear inflammation and damage. In a similar way to distorted vision, the distorted sounds that schizophrenics hear might be processed in faulty way due to brain abnormalities, and thus contribute to auditory hallucinations. This may be associated with magical thinking as mentioned earlier.



Schizophrenic woman with strabismus, and what she sees.

T. Gondii and personality disorders

Anti-social personality disorder-theft, begrudging, envious, property damage, guiltless, over-reactive, aggressive, manipulates others, oversensitive to criticism, deceitful, abusive, disregards social norms, rape, risky behavior. Has low MAO-A (needed to break down dopamine), which t. gondii causes.

Borderline personality disorder: disturbed sense of identity, over-emotional, high rejection sensitivity, self-harm/suicide, body dysmorphia, eating disorders, auditory hallucinations, delusions, indiscriminate sex with multiple partners, over-spending, substance abuse, idealization.



“The individual with antisocial personality disorders has no problem lying.”

DHT and infertility, hair, mood, and blood sugar

These related conditions have been found with toxoplasma infection in women, due in part to the high levels of testosterone, including the very potent testosterone DHT, that t. causes: infertility, male-pattern baldness, hirsutism, endometriosis, low 2D:4D finger ratio, type 2 diabetes, anxiety, suicide risk, narcissism, bipolar, bulimia, OCD, depression, aggression, and psychosis.

These are all symptoms of polycystic ovarian syndrome, so it's possible that toxoplasma causes PCOS. With PCOS there's a "highly significant difference" in testosterone, a low 2D:4D ratio, also a 4 to 8.8-fold increased risk of type 2 diabetes. Women with PCOS were found to have the following disorders, which are also related to t. gondii infection: perceptual distortion, anxiety, suicide risk, narcissism, bipolar, bulimia, OCD, depression, aggression, psychosis. It's also thought that PCOS is caused by a chronic infection.

Notably, women with PCOS were twice as likely to not identify as female (non-binary) than the control group (2009, Poland). Not surprisingly, with the high levels of testosterone with PCOS and with t. gondii, "transgender men are highly prone to PCOS." Similarly, male homosexuals have greater DHT than male heterosexuals.

DHT has a strong effect on mood. In a study, they doubled the amount of DHT in men, and the men changed into "alpha males", were "stingy", and seemed to take pleasure in punishing others.

Another cause of high DHT is estrogenic chemicals, which increase the enzyme (5-alpha reductase) that converts testosterone to DHT. Insulin, from a high carb diet, also increases 5AR. In contrast, critical brain fats stearic acid and arachidonic acid (both mainly in animal fat) block it. Zinc and lysine also block 5AR, and all three nutrients have been shown to help with fertility, hair, mood, and blood sugar control problems.⁴⁷

Fantasy, aggression, and sex from oxytocin

Oxytocin, from the pituitary gland, is the empathy, love, and mothering hormone. But, if it's excessive or released during stress (t. gondii also increases adrenaline), it can cause many t. gondii-related problems:

- Early puberty in girls.
- Dissociative/detachment disorders: prone to fantasy and suggestibility, out-of-body experiences, and depersonalization. Dissociation also occurs with body dysmorphia (unhappiness with and focus on gender-defining characteristics) and gender dysphoria, which can occur together. Oxytocin is high with OCD, which is related to body dysmorphia. In addition, generalized anxiety disorder and suicide, which are associated with toxoplasma, are common problems with gender dysphoria.
- Anxiety, aggression, amnesia, over-reactivity, anti-social and defensive behaviors, envy, gloating, and schadenfreude (pleasure at others' misfortunes)-oxytocin may also explain the greater attraction to sadomasochism with toxoplasma.
- Erections and orgasms are induced by oxytocin, and hypersexual men are high in oxytocin. So, excess oxytocin, during stress, contributes to the excessive and unusual sexuality, including paraphilia, that is found with t. gondii. Paraphilia includes pedophilia, sadism, masochism, exhibitionism, and transvestitism.

Vasopressin is also elevated, which increases aggression and memory. Vasopressin is high with PTSD.⁴⁸

Anxiety: high oxytocin and fearfulness

Results support an association between seropositivity to *T. gondii* and mixed anxiety and depressive disorder. 19.1% of Americans have anxiety. *T. gondii* infection had 2-fold greater risk for **generalized anxiety disorder**-constant worry, talkativeness, excessive laughter, and over-reactivity to stress.

Self-medication for anxiety is common, including caffeine, sugar, nicotine, alcohol, cannabis/illegal drugs, excessive exercise, marijuana, and chocolate, since these release anxiety-releasing endorphins. Not surprisingly, then, **smokers are more likely to be positive for *t. gondii* than non-smokers**. But, these activities lower zinc, which is needed to fight *t. gondii* infection. CBD oil is used to treat anxiety, and CBD oil induces autophagy, which is needed to destroy *t. gondii*. THC does this by binding to the same receptor as the body's own endocannabinoid-anandamide. Anandamide is made from arachidonic acid, an omega 6 fat found only in animal fat. Arachidonic acid is also the dietary fat that destroys *t. gondii*. So, taking CBD oil for anxiety may be indicative of an AA deficiency, and perhaps an indication of *t. gondii* infection, which wouldn't be surprising in the case of anxiety. Low AA also causes schizophrenia-like symptoms, so perhaps *t. gondii* is involved with this effect. Humans make little to no AA from its precursor, the omega 6 fat linoleic acid in plants. So, it's very important to eat fatty meat and fish, eggs, butter, and liver (the best source of AA). 25% of people with ADHD have anxiety in addition to ADHD. "Anxiety is really a form of fantasy": imagining, and fearfulness about, the future.

Obsessive Compulsive Disorder

People with *t. gondii* infection have a 3.4-fold greater chance of OCD. Thus, there is a high rate of OCD prevalence in people with serum positive for *T. gondii*. Notably, **antiparasitic treatment of two children with toxoplasmosis and OCD lowered antibodies, “completely curing” their OCD!**

People with OCD commonly hyperfocus, as they have more information-processing gamma waves. So, they have a hard time distracting themselves from repulsive or fearful objects or thoughts. They rely on repetitive actions-self-grooming, cleaning, excessive exercise, and checking locks, or mental exercises, like counting-to help them stop focusing on exaggerated, irrational fears or feelings of disgust.

OCD is a common comorbidity with narcissism, anorexia, temporal lobe epilepsy, Asperger's, bipolar, polycystic ovarian syndrome, schizophrenia, and Tourette's, which are all *t. gondii*-related disorders. People with OCD are higher in oxytocin, glutamate, and dopamine. Higher oxytocin correlated with higher frequency of repetitive behaviors (also related to dopamine), as well as severity of depression.

Calming serotonin is low with OCD. *T. gondii* requires tryptophan and limiting tryptophan restricts its growth, so the immune response catabolizes tryptophan via IFN- γ ! This lowers serotonin, causing “despair-related” behaviors”, anxiety and depression, and blocks the NMDA-receptors. Serotonin is also the source for melatonin, needed for sleeping and neuroprotection, and melatonin is also low with OCD. People with OCD are 10 times more likely to commit suicide than healthy people.

Animal Rescue Hoarder

One form of OCD is hoarding, including animal hoarding, when people have more pets than they can take care of. Thus, t. gondii may explain the problem of “cat ladies” as well as overwhelmed “rescue hoarders” of other animals.



Epilepsy: glutamate, alcohol, and DHT

“Increases in glutamate (damages neurons) **and/or disruption of GABAergic signaling** (needed to inhibit glutamate) could produce seizures that are associated with T. gondii infection”.

T. gondii infection increases risk for epilepsy up to 5-fold. Also, people with epilepsy are at an increased risk of other t. gondii effects: anxiety, completed suicide, bipolar, and personality disorders, hyper-religiosity (“ecstatic seizures”, also attacking others due to differing belief systems), compulsive writing and rhyming, and OCD. Also, seizures can be caused by excessive alcohol consumption, possibly due to self-medicating for t. gondii restlessness and depression. T. gondii is common with alcoholics, and alcohol is converted into acetate, which feeds t. gondii! In addition, t. gondii increases testosterone metabolite DHT, which has “significant pro-seizure activity”, plus DHT increases antisocial behavior and aggression.

There are various causes of epilepsy in addition to t. gondii, like stroke, brain injury, genes, other infections. However, **“combinations of parasites can have additive effects on...active convulsive epilepsy”**. So, t. gondii would make epilepsy, from another cause, worse.

With all the strong personality traits, high intelligence, restlessness, and compulsive activities that are connected to epilepsy, it shouldn't be surprising that epilepsy has been reported, indicating possible t. gondii infection, with many famous people throughout history. These include society-changing inventors, trend-setting writers, major artists, ground-breaking religious leaders and philosophers, brilliant composers, military and political leaders, including key politicians, empire builders, and revolutionaries.⁵²

Autism spectrum (includes ADHD, Asperger's)

Fetal exposure to dihydrotestosterone causes autism-like behavior in mice. *T. gondii* increases DHT, thus people with *t. gondii* have 2.5-fold increased risk of autism spectrum disorders. This is similar to the 2.7 increased risk for schizophrenia with *t. gondii* infection. Schizophrenia and autism are so similar that they were considered the same disorder for decades, and are thought to have the "same etiology (cause)." It's important to note that estrogenic chemicals are also linked to autism, and they also increase DHT-by increasing enzyme 5 alpha reductase. Thus it may be that the increase in DHT found with autism and other mental and neurological disorders are from both *t. gondii* and estrogenic chemicals. Autism and schizophrenia are also similar regarding problems with coordinating eye movement, so both involve staring.

Autism spectrum disorders are similar to chronic toxoplasmosis as both involve "persistent neuroinflammation with enhanced lipid peroxidation, and either obesity or wasting. Data presented in this review suggest that environmental triggering factors such as pregnancy (immunosuppressive), viral/bacterial infections, vaccinations, medications, and other substances cause **reactivation of latent cerebral toxoplasmosis because of imbalances in pro- and anti-inflammatory processes which could markedly hinder host immune control of the parasite.**" Specifically, lead, Tylenol, chlorpyrifos, and PCB's have been linked to autism, so they may reactivate *t. gondii*. Chemicals are also known to disrupt the integrity of the blood-brain barrier and gastric mucosa, which would enable toxoplasma infection. So, these disorders may be caused by a combination of *t. gondii* and environmental effects.

ADHD: impulsive, charismatic, imaginative

"There is a high rate of *T. gondii* in adults with ADHD," plus those with ADHD plus *t. gondii* are more hyperactive. ADHD has been linked to prenatal chemical exposure, so not all people with ADHD may have *t. gondii* infection. However, chemicals damage myelin that protects from infection, and people with ADHD have nearly triple risk for testing positive. So, chemicals may increase infection. *T. gondii* causes high dopamine and low GABA, as found with ADHD, and this increases aggression, impulsivity, and inattention. Dyslexia is a common comorbidity with ADHD, and *t. gondii* is thought to be a cause of dyslexia. Also, 40% of those with bipolar have ADHD.

Even though only 5% of adults have ADHD, it's not surprising that many influential people have or had ADHD and/or dyslexia. The ADHD brain is "rarely at rest. They are charming, intense, impatient, spontaneous, often love performing for people, are easily bored, imaginative, spend time fantasizing and daydreaming, and thrive on independence and unconventionality." When the pressure (adrenaline) is on, they are hyper-focused and "in the zone", so "there's just no stopping them". So, "they make the best salespeople," and, thus, can be "high-powered" people. Not surprisingly, people with ADHD are often highly intelligent, similar to other *t. gondii*-related disorders bipolar, depression, anxiety, and Asperger's.

High functioning Asperger's

- High in testosterone, DHT, and dopamine
- Can have a very high IQ
- Poor social/communication skills
- Child-like: for example, more likely to spend more time playing video games
- Lack the ability to understand other people's point of view via empathy and intuition, so they use logic and rules to guide behavior. Along these lines, they design computer systems to improve communication.
- Early puberty
- Comorbidities: anxiety, bipolar, OCD, ADHD, depression, social anxiety, seizures
- "More hypersexual and paraphilic fantasies and behaviors (involving feces and animals)"
- "Much higher rate of suicide attempts".
- Asperger's diagnoses are increasing and are now at about 1 in 250 people. In addition, it's estimated that 50% are undiagnosed, especially females. So, perhaps 1 out of 125 people have Asperger's.
- Myelin of the parietal, frontal, and temporal regions of the brain are damaged with Asperger's. T. gondii is typically in these areas, and damaged myelin, perhaps from chemicals, enables infection.
- Cysts can damage the temporal lobe, and damaged left temporal lobe can cause people with autism, Asperger's and Tourette's to have exceptional focus/ability in math, music, or art. Damaged right temporal lobe and amygdala is found with pedophilia.
- With high IQ, exceptional abilities, low empathy, comorbidities, and unusual behaviors, people with Asperger's can be very influential in a potentially harmful way.

Bipolar and Tourette's syndrome

People high in **dopamine** are curious, creative, natural **performers, energetic, restless, spontaneous, egotistical, enthusiastic, impulsive, and mentally flexible-explorers/risk takers, and excel at idea generation**. Only 1% of Americans are bipolar, but over 10% of people in creative professions are bipolar.

Due to high dopamine, *t. gondii* is thought to “trigger” bipolar. The *t. gondii* combination of high dopamine and high DHT, which builds muscle and is linked to aggression, also helps with sports. Many top athletes have bipolar, and, in a study, male and female basketball and soccer players with *t. gondii* were better players than those not infected. In addition, people with *t. gondii* are also taller than non-infected. Along the same lines, wolves infected with *t. gondii* are 46 times more likely to be leader of the pack, and to have aggressive and risky behavior! Notably, as seen with Parkinson's meds, excessive dopamine can also cause pathological gambling, shopping, hypersexuality, and pedophilia.

Another high dopamine disorder is Tourette Syndrome (compulsive actions and use of words about sex, feces, and animals). *T. gondii* infection is 4 to 6-fold higher in people with Tourette's than in healthy people. Common comorbidities are epilepsy (18-fold higher risk), autism, Asperger's, bipolar, OCD, rage, and ADHD. Both Tourette's and bipolar are treated with haloperidol, which prevents replication of *t. gondii*! **Tourette's symptoms are connected with the basal ganglia, where *t. gondii* can be concentrated**. Example: “cerebral toxoplasmosis appears as multiple regions predominantly in the basal ganglia.” With comorbidities like OCD and Asperger's, there are many people who use a lot of sexual language (F- word), and this may be related to Tourette's.

People with bipolar have high dopamine/excitatory glutamate, with low inhibitory GABA, causing mania or hypomania (lesser version of mania).

These are the same symptoms as hyperammonia, which is caused by t. gondii.

- very happy, elated or overjoyed-euphoria
- excessive laughter and talkativeness, talking quickly
- energetic-hyperactivity, impulsiveness, spontaneity
- grandiose ideas and important plans-flight of ideas
- Irritated, agitated, distracted, racing thoughts
- delusional, hallucinations, disturbed/illogical
- not sleeping or eating
- doing things that often have disastrous consequences -like spending money on unaffordable items
- self-important, making decisions/saying things that others see as being risky or harmful

Mania: narcissism

Mono-mania (obsession with a single idea, like one's self, kleptomania, or pyromania).

Narcissism-high in dopamine: confident, personal superiority, grandiosity, dominance, egotistical, self-important, disdainful, sense of entitlement, takes advantage of and controls others, flatters to control others, controls conversation, self-promotion, competitive, passive aggressive, demands higher salaries.

"Narcissists are more likely to be in positions of power", and narcissistic CEO's are paid most.

Narcissists are high in testosterone and DHT, and *t. gondii* raises testosterone: anti-social traits, aggression.

A study of 206 men and women found that those with higher testosterone become more narcissistic and corrupt when put in a position of power.-"When people with high testosterone are given social power, they believe they are entitled to special treatment and that they can exploit others for their own purposes. They don't think the rules, even the law, apply to them; they play by their own rules," and create their own reality.

Hitler is thought to have had narcissism, schizoaffective disorder, and/or antisocial personality disorder, which are linked to *t. gondii*. Prevalence of *t. gondii* is particularly high in Germany, so *t. gondii* disorders may have been widespread during Hitler's time.

SSADH, "date rape" GHB and "alien" Rh- blood

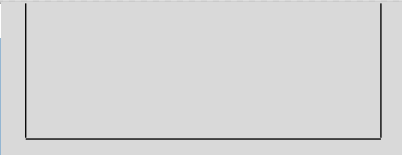
T. Gondii blocks the enzyme SSADH. SSADH converts GABA into energy for the mitochondria, but blocking SSADH converts GABA into gamma hydroxybutyrate, or GHB, and glutamate (Glu), rather than into energy for the brain. Symptoms of low SSADH include t. gondii symptoms of OCD, anxiety, and lack of focus and attention. High levels of GHB cause **disinhibition, enhanced sex drive, amnesia, and even euphoria**. Taken recreationally, or slipped into a drink, GHB is the infamous "date rape" drug! This gives an idea of the **unusual and harmful state of mind that t. gondii can cause through interfering with GABA**.

T. Gondii increases ammonia by blocking SSADH. Notably, people with Rh- blood detox ammonia at a lower rate, since Rh is an ammonia transporter. As a result, people with Rh- are more subject to some of the effects of t. gondii: personality changes, decreased psychomotor performance, physical and mental disorders. In addition, women with Rh- blood engage in sex more often. There is even a theory that, due to traits common to people with Rh- blood such as high IQ, predilection for psychic phenomena and alien abductions, as well as enhanced intuition, sensitivity to light, and the rare red hair and very pale skin, Rh- blood was the result of humans breeding with aliens or angels! Given the fact that Rh- people are more subject to t. gondii effects on mental health, such as caused by SSADH inhibition and GHB, alien ancestry may seem reasonable!

Alternatively, Rh- blood is thought to have evolved from farmers and hunters interbreeding, so Rh may have been altered to block transportation of the very toxic ammonia caused by t. gondii. Also, pale skin and red hair often occur with Rh-. T gondii increases hormones dopamine, norepinephrine, and epinephrine-all made from tyrosine, and melanin pigment also comes from tyrosine. So, low melanin production might occur due to making all of these t. gondii hormones from tyrosine, which pale would cause pale skin and red hair. Thus, t. gondii may have caused the emergence of pale skin, red hair, blue/green eyes, and Rh- factor, as well as type O blood, which is also thought to have occurred during this transition, as described in the next ⁵⁹section.



5. ORIGIN OF TOXOPLASMA AND IMPLICATIONS FOR DIET



For two million years, before grain agriculture, humans were eating seafood and meat, which supply critical immune system nutrients such as arachidonic acid, lysine, and zinc. Thus, humans had a strong immune system, and were basically in ketosis, which prevents *t. gondii* infection. "Ketogenesis occurs constantly in a healthy individual." (Paul Engel, bio-chemist)

Then, in Assyria, humans began to grow, eat, and store grains, and toxoplasma emerged. Grains attracted rodents, so Assyrians were the first to domesticate cats. This brought about the possibility of toxoplasma infection, and the first cases of epilepsy were recorded in Assyria! So, this indicates that Assyrians were likely the first to become infected with *t. gondii*. Furthermore, type O blood is thought to have emerged at this time, and people with type O blood are "more resistant to parasites". Their increased stomach acid, which has been shown to destroy toxoplasma, would be an advantage. So, toxoplasma, as well as the related parasite malaria, may have caused type O blood to emerge.

Origin of toxoplasma gondii

Toxoplasma gondii evolved from a symbiotic red cyanobacteria that lost its ability to photosynthesize, so it changed to parasitism. Cyanobacteria are symbiotic with grain roots. So, t. gondii may have evolved from cyanobacteria clinging to the roots of the grain stalks, harvested and stored in a dark place. Without sunlight, an alternative energy and nutrient source would be needed. In the case of t. gondii, and adding to the connection with grains, grain lectins enable infection in animal cells, arginine in grains enable replication in animal cells, and oligosaccharides, such as are in wheat germ, form part of the parasite cyst. So, t. gondii is essentially dependent on grains. Mice would have eaten the newly-evolved parasite along with the grain, were infected, and then eaten by cats, where it sexually reproduced. Cyanobacteria can cause neurological problems, like ALS symptoms, so it's not surprising that a parasite that evolved from cyanobacteria does this as well.

8000 BCE

- Grains cultivated and animals herded in Mesopotamia for the first time in human history.
- Toxoplasma originated in Mesopotamia.

3500 BCE

- Assyrians, in Mesopotamia, are the first to domesticate cats.
- In Egypt, wormwood (treatment for toxoplasma) is first mentioned.
- Garden of Eden, located in Mesopotamia, ends with the Fall of Mankind (Bible chronology).

3000 BCE

- Grains have become the staple food of Assyrians, rather than meat.
- Egyptians begin to worship cat gods, punishment for killing a cat was death.
- Magic spells and the “evil eye” recorded for the first time-in Mesopotamia.

2700-2200 BCE

- Age of Pyramid Building, toxoplasma found in cat mummies.

2000 BCE

- In Assyria: first report of epilepsy-includes compulsive writing. Note: writing began in Assyria.
- In Egypt: first report of schizophrenia, associated with demons and evil spirits.

Grains, toxoplasma, cats, and Bible clues

GRAINS: Mesopotamians began to cultivate grains in 8000 BCE, but also hunted for meat. This supplied nutrients to protect from *t. gondii*. Since many with *t. gondii* have no symptoms, the harmfulness and persistence of *t. gondii* is due to a poor immune system and high carb diet. However, they were increasingly dependent on grains and fruit, since the population grew rapidly. They also used lead, which causes brain damage, to work the land and for dishes. By 3000 BCE, grains were the staple food of Assyrians.

T. GONDII: The earliest known incidence of *t. gondii* was in Egyptian cats, in cat mummies. But, according to researchers, the ancestor of *t. gondii* had its beginning around 8000 BCE in Mesopotamia.

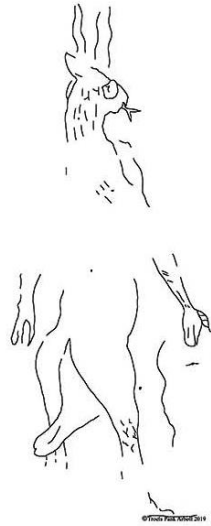
DOMESTICATED CATS: Assyria is part of Mesopotamia, and Assyrians domesticated the "Mesopotamia cat", which is the ancestor of all domesticated cats, as early as 3500 BC. Also, the anti-parasitic herb wormwood is first mentioned in Egyptian writings of 3500 BC, and the first report of epilepsy is from Assyria, in 2000 BCE.

BIBLE CHRONOLOGY: The Garden of Eden is thought to have occurred during this time, from about 6000 to 3500 BCE, in Assyria. So, with hallucinations, disordered thinking, aggression, and compulsive actions that toxoplasma causes, a combination of *t. gondii* and lead poisoning may have caused the Fall of Adam and Eve. This is further illustrated when Cain, whose offering of the "fruit of the ground" (not from a tree) may have been grain, killed Abel, a shepherd. This act may have symbolized the transition of grain eating, as well as the violence it engendered. Then, around 2000 BCE, Jacob and the red-haired Esau were born of Isaac, Abraham's son. Jacob's first wife, Leah (means "weary") had "weak", perhaps deformed eyes, indicating *t. gondii* infection. Her father was Laban, which means "white", so he had very pale skin. As mentioned, pigment is made out of tyrosine, but toxoplasma, which is in evidence here, shifts production to many other hormones made from tyrosine, and thus might be involved in the change to paler skin, as well as red⁶⁴ hair.

Some of the common effects of *t. gondii* include OCD, with its fearfulness and rituals, as well as the demonic hallucinations of schizophrenia. So, it's not surprising that the history of demons, and magic spells to cast them out, began in the same place and time as *t. gondii*: in Mesopotamia around **3000 BCE**, when grains first became the staple food and cats were domesticated. Thus, we find voluminous records from ancient Assyria and, later, ancient Egypt detailing incantations to deal with blindness, mania, seizures, violence, stillbirth, etc. Similarly, the "Evil Eye," identified as early as 3000 BCE in Assyria, could be a symptom of *t. gondii*, as intense staring is common with *t. gondii*-related disorders like OCD, narcissism, and autism, due in part to their lack of control over eye movements. Later, one of the earliest accounts of witchcraft is found in the Bible around 900 BCE, near Assyria, when King Saul consulted with the Witch of Endor.

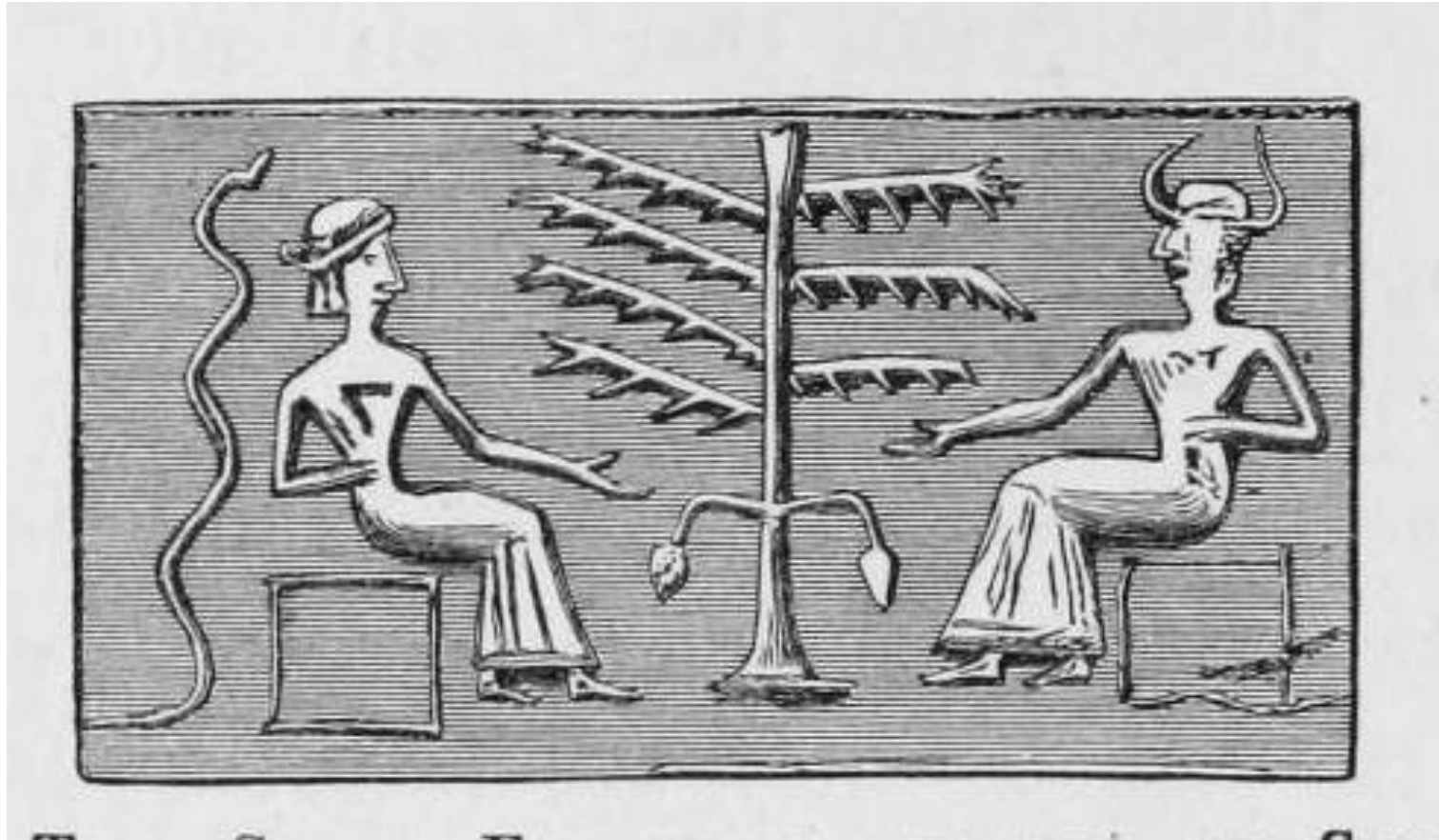


An Assyrian amulet was supposed to protect against the "evil (staring) eye".



Epilepsy demons

The drawing on the upper left is from Assyria in 500 BCE, and is a depiction of a horned demon that they believed caused epilepsy. The drawing on the lower left illustrates some of the frightening hallucinations, including bright light and eyes, that epileptics may see, and which may be the inspiration for how demons have been pictured through the ages.



2200 BCE Assyrian Magical Amulet: Fall of Man?

Woman worshipping a horned image, or hallucinating this vision, under the influence of a snake. They're separated or joined by a date palm. It's been speculated that this illustrates the Garden of Eden and Fall of Man. This is about when epilepsy was first reported, and the anti-parasitic wormwood was first used. So, *t. gondii* could be the snake, or evil influence.



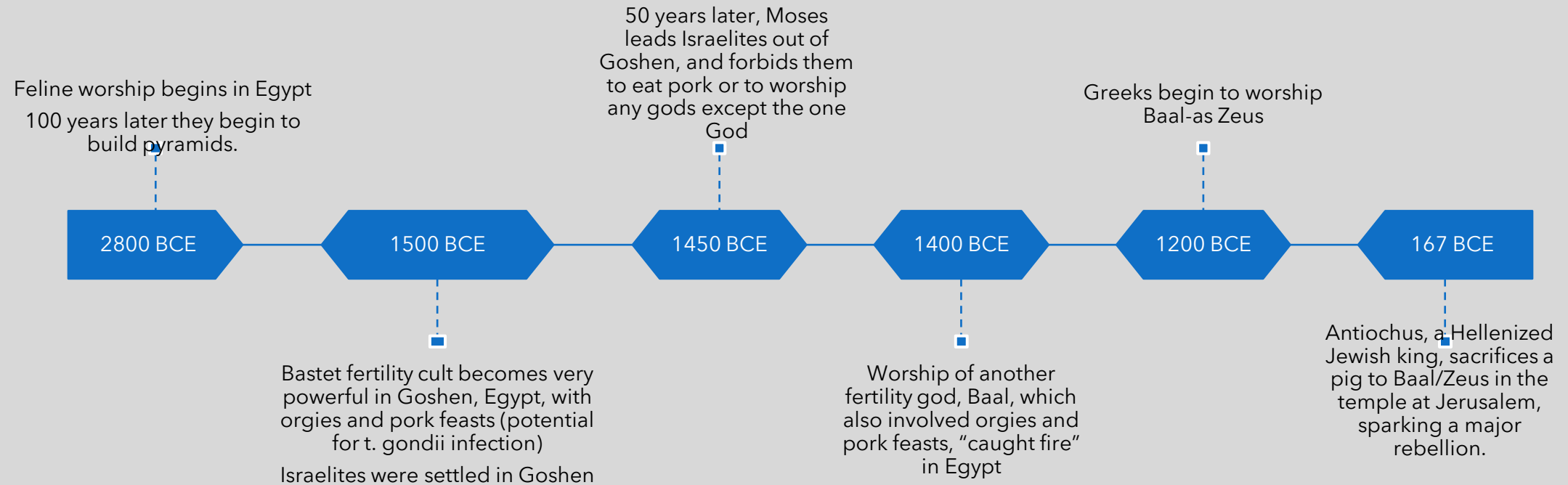
Assyrian feline (lion) protective deity Lamassu

In some writings,
Lamassu is a feline
goddess. Lamassu
is also represented
as a bull.



First Evidence of *T. Gondii*: *T. Gondii* DNA sequences were found in a cat mummy from Ancient Egypt.

Approximate timeline: Cat gods to Zeus



Cats were highly valued in Egypt because they protected grain, their staple food.



The sphinx pyramid has the body of a lion.

T. Gondii may have been widespread in Ancient Egypt, both in cats and in humans.

Cats were highly valued and often mummified when they died. The royalty had “big cats” in their house, and they even let them eat off their plates.

Cats in ancient Egypt were seen as possessing the power of fertility,

Herodotus noted the Egyptian fondness for cats when he visited in 450 BCE.

The penalty for killing a cat, 4,000 years ago in Egypt, was death. The Egyptians attempted to restrict the distribution of cats to other countries and prohibited their export. Today, there is a “high prevalence” of t. gondii in Egyptian cats.

The **red** eye of Ra: the **red** oblong shape and snake above Pharaoh, "seeing" for him, in the picture below.



The **red** eye of uveitis, a common symptom of *t. gondii* infection.

"The religious significance of ancient Egyptian male cat MAU assumed great importance from about **2800 BC** onwards and felines were regarded with deference and devotion." The divine female MAU, Bastet, was worshipped as early as 2800 BCE. Bastet was "the Eye of Ra". Ra was originally a pharaoh, but called himself the Sun God. In his mythology as the Sun God, Ra often assumed the shape of a female cat. The Eye of Ra, a cat or lion, was associated with fertility and feasting, as well as monitoring activity in the kingdom. The Eye of Ra could also be violent.

MYRRH: was both "incense of Ra" and treatment for *t. gondii*! Myrrh is one of the oldest medicines, and was highly valued to calm the mind, ridding it of "negative energies", also to cultivate wisdom, "focus our spiritual consciousness," and to heal sorrow and many diseases. Myrrh would be burned in religious rites in Ancient Egypt, and was used in magic to break curses and for protection against "psychic attack". Burnt myrrh was also thickly applied around the eyes, where *t. gondii* would be! Perhaps most importantly, we now know that, in a high dose, myrrh "completely" controls *t. gondii* replication! So, this may be its true magic.⁷²

2700-2200 BCE: "The Age of the Pyramid Builders". There may be a connection with *T. gondii* to the building of pyramids, coming so soon after cat worship developed. For example, the Great Sphinx, built around 2500 BCE, has the body of a lion. Also, *T. gondii* increases dopamine, with its great creativity, grandiose ideas, and purposeful compulsive activity, while the mania and unstable thinking that *T. gondii* can cause may have created a strong perceived need for a large, stable, protective form, like a pyramid, for Pharaoh. *T. gondii* infects the retina, which causes the greater perception of brightness common with schizophrenia, which would make the sun, planets, and stars appear larger. So, *T. gondii* may also have influenced the Egyptians' great curiosity about the solar system, which influenced the form and placement of the pyramids.

Bastet, the Eye of Ra, was the female fertility god who also protected the grain. So, Bastet was worshipped at fertility feasts in which a pig was sacrificed and eaten. These feasts could also include orgies, to encourage a good harvest. When pigs are kept out of doors, undercooked pork "is important for *T. gondii* transmission", because pigs dig through the soil for roots, and will eat poop that could be contaminated. A tapeworm from undercooked pork also causes seizures. With 2 pathogens, eating under-cooked pork may have been suspected early on by the Jews as being "evil". Furthermore, pork was widely connected with epilepsy and demons in the ancient world.



PROTECTIVE BASTET
SLAYING APOPHIS,
THE FORCE OF EVIL

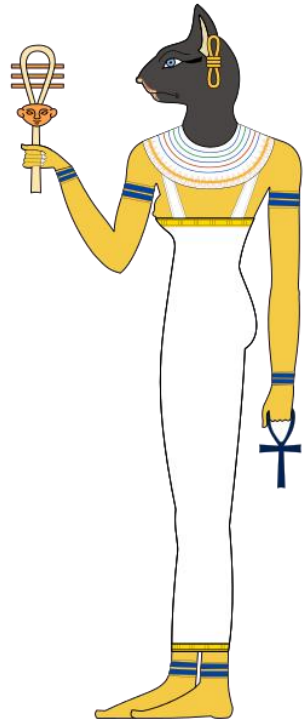


WORSHIPPERS AT
BASTET'S FERTILITY
FEAST

Israelites come to Egypt:

Joseph and his family settled in the land of Goshen in Egypt around 1550 BCE. They were herders, like their ancestors, including Abraham.

Notably, shepherds were "abhorrent to the Egyptians (Genesis 46)," who were farmers. So, Israelites ate less grain than the Egyptians, and may have been less, or not, infected by *t. gondii*, at least when they first arrived. Also about 1500 BCE, the Bastet cult in Goshen became widespread and influential in Egypt. In addition, from that time to 1292 BCE, many pharaohs had seizures, hallucinations, religious visions, sensitivity to bright light, early death, and enlarged breasts, perhaps from *t. gondii*. Thus, Bastet, as the Eye of Ra, may have symbolically served an important function for the pharaohs, as bright light impaired their vision.



The Israelites left Egypt in 1450 BCE, 100 years after settling there, just as the Bastet cult, with its fertility feasts, was growing. This cult, completely counter to Hebrew worship, may have been a major reason the Jews had to leave Egypt. After they'd left Egypt, Moses established, for the first time, the use of myrrh, which controls *t. gondii* infection, as a "holy anointing oil". Before this, Moses murdered a man. Moses may have been purified of any violent tendencies, perhaps from *t. gondii*, with myrrh, when he lived with the priest of Midian. Midianites were sheep herders (rather than farmers), and they were renown for their incense. Moses said myrrh was to be used only by priests and kings, so they would be calm and wise, and could guide the Israelites. Moses also forbade pork and oyster consumption. So, Jews would have avoided infection with *t. gondii*, plus they couldn't worship this "strange god" at the feasts.

Type 1 diabetes is another disease related to t. gondii, and it was first recorded in Ancient Egypt. Notably, physicians of that time told their patients to avoid eating grains! Also, T1 diabetics often have epilepsy and “mental disorders” as well, which were occurring in the Ancient World. In modern times, children and adolescents who have type 1 diabetes are almost three times as likely to develop epilepsy, and two times as likely to have mental disorders, as those without type 1 diabetes.

The “fiery” eye of Horus has been used for many metaphors, like “Eye of the Mind, Third Eye, Eye of the Truth or Insight, and Eye of God.” The Eye of Horus is on the dollar, and is an important part of Freemasonry and New Age thought.



Eye of Horus

Amulets with the Eye of Horus were worn by the ancient Babylonians. It was worn to protect against “epilepsy, poor eyesight, mania, fever, stroke, and muscle weakness”-ALL CAN BE CAUSED BY T. GONDII!

According to Greek mythology, Horus has epilepsy. Demigod Hercules also had epilepsy. Epilepsy, as the “sacred disease”, causes out-of-body experiences, brain gamma waves (the highest energy frequency), auras, and mental changes. T. gondii typically infects, and thus impairs, only one eye. So, the concept of a third eye may have been useful, like the eye of Ra, as a “replacement” for an eye infected with t. gondii. In addition, hallucinations of bright, fiery eyes that occur with epilepsy may have been the inspiration of this protective symbol.

Greece: cats, undercooked pork, abstract thinking

- 500 BCE: Domesticated cats appear at this time in Greece, probably brought by the Phoenicians. Socrates, born 30 years later, in 470 BCE, is thought by many scholars to have had a form of epilepsy. He would experience "recurrent partial seizures", during which he said he was visited by his "daimonium". Hippocrates, born ten years after Socrates, was first to identify epilepsy as a brain disorder, rather than being possessed by a spirit, and he said to control it by fasting, cleanliness, and by "abstaining from pig". Aristotle had melancholia and lucid dreaming, which is also found with depression, anxiety, seizures, dissociation, and schizophrenia. Moreover, melancholia, or major depressive disorder, "has been associated with men of learning and intellectual brilliance, a hazard of contemplation and creativity." Indeed, the many unusual states of mind that so many struggle with may be what the snake in the Garden of Eden meant when he said that eating of the fruit of the tree of good and evil (which was perhaps grain) would "open their eyes"-to the world of depression, uncontrolled abstract thinking, rumination, anxiety, etc., all disconnected from God (intuition), instead of the calm, intuitive alpha state, which controls access to the other brain wave patterns.
- 150 CE: Pork was a popular meat in Greece, but Greeks were not to eat pork in some circumstances, such as "in a sanctuary, where it is said by Xanthos that they should not eat pig and garlic. Certain papyri indicated that Greeks were sometimes expected not to eat pig. It is also found in Byzantine recipes for magicians (who were supposed to rid the body and mind of evil influences). The reason for abstinence was given, according to Haussleiter, that they feared that with eating of meat of pig, certain demonic powers enter the human body and those powers would disturb the magician"! This may be describing schizophrenia, which was recorded in Ancient Greece, as well as in Ancient Egypt.

Toxoplasma-related disorders in Rome

"Cats enjoyed life in ancient Rome almost as much as they did in Egypt as Latin authors and Roman graves depicting grief-stricken cat owners attest."

Jupiter was, like Baal and Zeus, the god of the skies and rain, and pork was the meat commonly served at Roman feasts and orgies, and piglets were a common sacrificial animal, which was then eaten. For example, a pig was sacrificed at every grave site. So, in practice, Baal worship continued.

Famous Roman epileptics: Julius Caesar, who couldn't attend his coronation due to a seizure-like incident. St. Paul, who killed early Christians in the name of his own religion (perhaps hyper-religiosity from *T. gondii*), until he suddenly saw a bright light, which can occur with a seizure, and became blind, as can occur with *T. gondii*. He fasted for 3 days, then Ananias, the Bishop of Damascus, laid his hands on him, perhaps anointing him with myrrh (a common ritual). Then, Paul could see again. So, perhaps fasting, as well as myrrh, destroyed the parasite, which would bring him back to a normal, peaceful, and intuitive state of mind. He then became the leader of the early Christians he had persecuted, spreading Jesus' message of unselfishness, focus on God, peace, and love. Gaius Caligula (known for "cruelty, sadism, extravagance, and sexual perversion"), and Herod (known for his despotic rule, also he killed his wife) were thought to have had either epilepsy or schizophrenia.

Middle Ages:

There was a major change in diet for Europeans during the Middle Ages. Europeans had been eating only 30% of their calories as carbohydrates, with the rest as meat, fish, and dairy, plus they ate only one meal per day. So, they would have been in the state of ketosis, with adequate lysine, zinc, and arachidonic acid, which would prevent *t. gondii* infection. Then, between 300 and 700 AD, as the Holy Roman Empire converted “pagan” Europe, people had to abstain from animal foods nearly half the year, on holy days. So, they ate more grains and less meat and dairy. This change in diet would have taken them out of ketosis, lowered arachidonic acid, lysine, and zinc, and supplied more arginine—all of which would make them vulnerable to *t. gondii* infection.

MIDDLE AGES AND CATS

Cats are now thought to be connected to evil and magic, and were actually burned in many villages. Why was there a change in how cats were viewed? Perhaps people noticed incidents of people spending a lot of time with cats, then becoming schizophrenic, having “demonic” hallucinations, becoming anxious or depressed, getting epilepsy, or committing suicide. “Desmond Morris cites the continued persecution of cats throughout the Middle Ages and into the Renaissance, noting how ‘as late as 1658 Edward Topsel, in his serious work on natural history, [wrote] “the familiars of Witches do most ordinarily appear in the shape of Cats which is an argument that this beast is dangerous to soul and body” (158).’ The cat would largely continue to be seen this way, even throughout the Renaissance, until the Age of Enlightenment in the 18th century CE.”

Renaissance Change in Diet in Europe: Sugar, then Caffeine

As part of the Renaissance, there was a major addition to the diet of Europeans: sugar! For example, Italians, who had been eating vinegar-based sauces, began adding sugar "to everything". Queen Elizabeth ate so much sugar that her teeth turned black! This would have taken people out of ketosis, and would have enabled *t. gondii* to replicate. Chocolate also became very popular in France by the 1600's, with coffee and tea soon after throughout Europe, further lowering zinc, plus supplying arachidic acid, the unusual fat making up the protective covering of *t. gondii*. The establishment of the slave trade and sugar plantations in the Caribbean brought a ready supply of inexpensive sugar, so even poor people were able to afford sugar by the 1700's.

The “first Renaissance man” was Dante, who wrote about nine circles of Hell in “The Divine Comedy”, filled with frightening demons, in 1472. Dante is thought to have had narcolepsy and/or epilepsy, since he had “visions and hallucinations, unconscious behaviors, episodes of muscle weakness, and falls, triggered by strong emotions.”

Symptoms of narcolepsy are caused by dysfunctional NMDA receptors, due to anti-bodies to NMDAR. These effects, and anti-NMDAR antibodies, also occur with schizophrenia. Anti-NMDAR antibodies are found with t. gondii infection, and are very high with toxoplasmosis encephalitis. Other t. gondii-related disorders, depression and anxiety, are common morbidities with narcolepsy.

Dante certainly had strong emotions, as “he smashed up the workshop of a blacksmith whom he heard singing his poems as he worked, but muddling up the words.” Despite the medieval fear of cats, **Dante had a cat that he was training to hold his candle while he read!**



Leonardo DaVinci and Cats



- In 1484, Pope Innocent VIII ordered burning of all witches and their cats. Yet, less than 30 years later, DaVinci, who worked for the popes, drew sketches of cats, even of a young Jesus cuddling a cat! DaVinci had a vision defect that's caused by *t. gondii*: strabismus, plus he had dyslexia and is thought to have had ADHD. M. Alberghini, Florentine writer, wrote, "That Leonardo loved cats is not a mystery. Among the many cats he kept, there was one whose name we don't know that he studied closely, observing in his notes the contractions of its pupils and the agility of its limbs." She quotes a one-liner attributed to DaVinci: *"Even the smallest feline is a masterpiece of nature"*.
- The immune system can't destroy *t. gondii* without autophagy from ketogenesis, which destroys cyst-infected cells. A high carb diet blocks ketogenesis, plus glucose feeds the parasite and lowers zinc, and there are indications that DaVinci had a very high carb diet. He was "hooked on sugar", had fondness for marzipan, was a vegetarian, was even called "fat boy", and he created giant sugar sculptures. Sadly, DaVinci was frustrated at his inability to complete projects and, at his death, he bemoaned how he never fully used his talents. So, if he were infected with *t. gondii*, the amazing things he could have accomplished, with *t. gondii* in control, can scarcely be imagined!⁸⁴

Widely given mercury pills destroy t. gondii!

"In the presence of mercury, t. gondii tachyzoites undergo lipid uptake and transport impairment, functional and structural mitochondrial disorders, DNA condensation, and acidification of the parasitophorous vacuole, **thus leading to parasite death.**" Starting in the Renaissance, mercury was "commonly prescribed" for inflammatory bowel disease, melancholia, fatigue, headaches, liver maladies (like encephalitis), congestive heart failure, pain, and syphilis sores. All of these, including symptoms of syphilis, may be symptoms of t. gondii. Arsenic was also taken for syphilis, as well as for diabetes, and arsenic causes t. gondii to form cysts, ending active infection. This practice continued until the mid-1900's. Mercury was also the principal element in Alchemy, and represented the Mind and a state that could transcend death. Thus, the great emphasis put on mercury as a powerful cure-all, and the centuries-long preoccupation with mercury by alchemists and freemasons, may have been due in part to mercury's destruction of the parasite, which would have had very good effects. Mercury itself has many toxic side effects, as seen with women who made hats with mercury, including hallucinations. A combination of mercury and toxoplasma thus may even have been involved in fervent religions, based on visions, that were established when mercury was common. This problem had been noted as early as the 11th century, when a doctor said to use it only externally. Yet, they continued using mercury internally for 900 years, despite the side effects, perhaps showing how much it was needed to help with t. gondii.

Isaac Newton (1643-1727)

Isaac Newton-the “key figure of the Enlightenment”, laid the foundation for the Industrial Revolution. Newton placed emphasis on rediscovering the wisdom of the ancients, and worked with mercury as an alchemist. In fact, he was called “**the last of the magicians**.” “He spent some time on a farm as a boy, but was so day-dreamy and listless that he was deemed unsuitable for agricultural work. His uncle declared that Isaac was “fit for nothin’ but the versity”, so he was sent to school. The scientist’s dark hallucinations and brief interactions with absent people have prompted modern psychiatry to conclude that he swung between autism, bipolar, and schizophrenia.” He often avoided animal foods, eating only bread and vegetables. In fact, he said that he did his best work during those times. He also owned cats.



“Newton cut a small hole in his door for his cat to go in and out as it pleased. Later the cat had a litter of three kittens, so Newton cut three more holes in the door, so they could all go in and out freely.”

Marquis de Sade (b. 1740) and Chocolate

The French noble Marquis de Sade was hypersexual. Highly intelligent, he authored many illustrated books that depicted acts of sexual cruelty which now carry his name-sadism. He spent his last days in an insane asylum, and is thought to have had antisocial personality disorder, which is associated with t. gondii. He also ate copious amounts of sweets, especially dark chocolate, "always more chocolate", that was "so dense that it is black, like the devil's arse is blackened by smoke (his words)!" Chocolate is an aphrodisiac, because it contains phenylethylamine, serotonin, and anandamide, and raises dopamine. However, chocolate also contains a rare fat arachidic acid which, as part of its lipid envelope, protects t. gondii from the immune system. Also, the chocolate and sugar would not only feed t. gondii; it would increase oxytocin, lower zinc, block ketosis, and block the immune system's action against t. gondii, thus possibly causing serious infection. In studies, **those infected with t. gondii "expressed higher attraction to bondage, violence, zoophilia (sex with dogs), fetishism, and, in men, also to masochism, and raping and being raped"**. Thus, with a diet that feeds t. gondii, with its elevated oxytocin (release of oxytocin in the body is what causes an erection) and dopamine (pleasure hormone) might explain de Sade's hypersexuality and symptoms of antisocial personality disorder.

Starting in 1600's with the "Sun King" Louis XIV, the French nobility drank chocolate and ate sweets, and the French royal family reportedly engaged in "debauched gambling, sexual liaisons and wanton spending". The prolific thinker Voltaire, another key figure in the Enlightenment, who lived with various nobility much of his life, drank 40 to 50 cups of coffee and chocolate every day! Thus, the habitual consumption of chocolate and sweets among the French upper class, as well as grains, and the t. gondii these would support, may have influenced much of the thought and action of this time. T. gondii is particularly prevalent in France even today.

1850 to 1950:
Refined flour,
Seed Oils,
and
Chemicals

“Less than a hundred years ago, most of the population was probably infected.”
A. Flegr, toxoplasma researcher

Late 1800's: Change in Diet to Seed Oils

In the mid 1800's, petroleum-based solvents were invented in France. So, fat from soy and cottonseeds were extracted and made into margarine. In addition, first in Europe, later in the U.S., lard and olive oil were often adulterated with cottonseed oil, which is high in linoleic acid. In contrast, *t. gondii* is kept under control by the essential fat arachidonic acid, lysine, and autophagy (ketosis). Arachidonic acid is available only in animal fats, like lard, butter, chicken fat, and beef tallow, while seed oils are high in linoleic acid, but have no arachidonic acid to fight infection. Cottonseed also has a poison, gossypol, that depletes lysine (that fights *t. gondii*). Gossypol lowers sex hormones by blocking the cholesterol transporter (cholesterol is made into many hormones). This causes the liver to make cholesterol, which is then oxidized, causing the plaques of atherosclerosis. Also, higher consumption of sugar, and smoking, prevented ketosis and lowered zinc. By the early 1900's, hydrogenated cottonseed oil (Crisco in the US) was invented in Germany, and began to displace butter, lard, schmaltz, and beef tallow, first in Europe and then in the U.S. Other seed oils, still used today, are also high in linoleic acid. France and Germany still have high *t. gondii* infection-about 70%!

T. Gondii feeds on blood sugar, and, in the 1800's, flour mills began producing finely ground flour. Then, during the Great Depression, local mills closed. Flour needed to be shipped, so white flour, which causes a spike in blood sugar, became the norm. Sugar consumption also increased.

Phenolic compounds, the basis of BPA and countless industrial and household products like Tylenol, were invented in Germany and France from coal tar at this time. These compounds can damage the blood-brain barrier and gastric mucosa, enabling *t. gondii* infection in the brain. Furthermore, *t. gondii* inhibits detoxing, as it lowers glutathione, the primary antioxidant. So, infection makes chemical exposure worse.

Absinthe and nihilism

The effects of absinthe, as reported between about 1860 and early 1900's, are similar to the effects of *t. gondii*: heightened sexuality (high oxytocin), high intelligence (glutamate), curiosity, creativity, spontaneity, restlessness, enthusiasm, impulsiveness (dopamine), seizures (low GABA) and disordered thinking/hallucinations (low acetylcholine). Is there a connection? **Absinthe is wormwood, which kills parasites, and this formula was originally made to treat a related parasite, malaria.** So those infected by *t. gondii* may have felt benefits from absinthe, thus may be more likely to drink it. Also, "the earliest modern examples of keeping cats as pets occurred in the mid-18th century, first in Paris and later in London, among artists and writers." From a publication in 1870: "Of late years there has been a rapid and promising growth of what disaffected and alliterative critics call the '**cat cult,**' and poets and painters vie with one another in celebrating the charms of this long-neglected pet". ⁹⁰



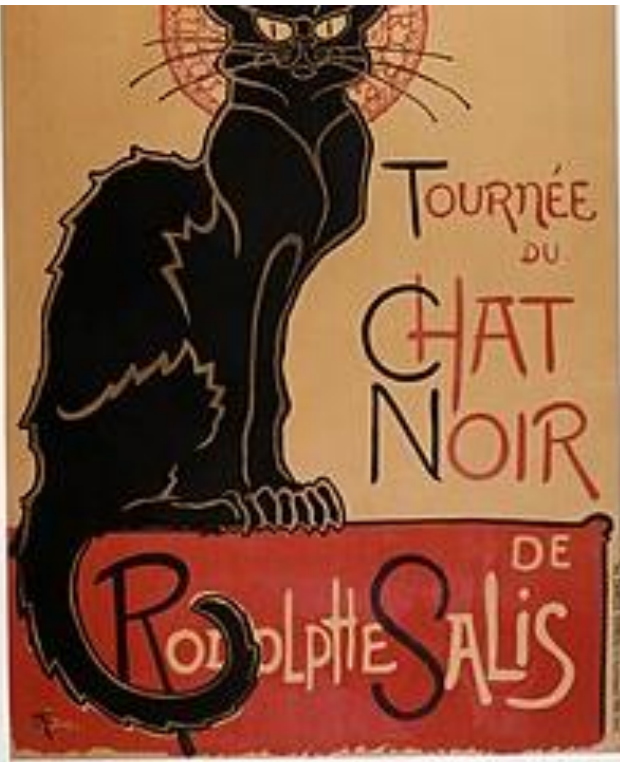
Aleister Crowley felt that he was to lead people to the "Age of Horus" (third eye). He wore leopard skin-mimicking Egyptian priests.



The disordering of the Green Goddess

From about 1860 to 1915, absinthe was immensely popular in Paris, London, and New Orleans among many famous writers, painters, sculptors, musicians, politicians, and inventors. They called it their "muse", due to interesting hallucinations. They also felt otherworldly, in a kind of depersonalization, "aloof from...self", as occultist Aleister Crowley put it in his book "The Green Goddess".

Another example comes from the poet Rimbaud, who "declared that a poet 'makes himself a seer through a long, prodigious and rational **disordering**.' Absinthe, with its hallucinogenic and dissociative effects, could achieve all of this."



Le Chat Noir
(The Black Cat):
First Cabaret in Paris,
established in 1881,
is named after a cat.

- "where the gentry, burghers and peasants are now invited to drink absinthe after the usual manner of Victor Hugo and Garibaldi".

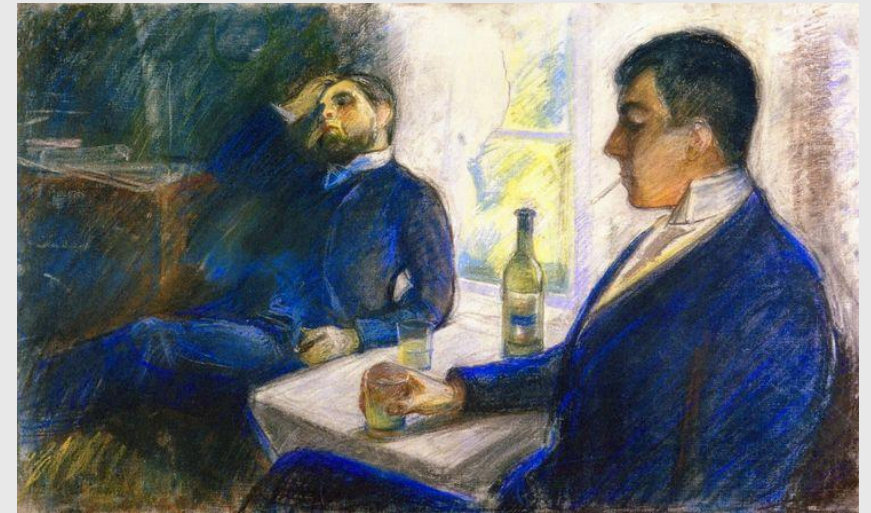


The Starry Night-Van Gogh (1889)-may have had schizophrenia or epilepsy



Caress of the Sphinx-Khnopff, Symbolist painter (1896)

"Absinthe created visions and dream-like states that filtered into artistic work. It shaped Symbolism, Surrealism, Modernism, Impressionism, Post-Impressionism and Cubism."



Absinthe Drinkers-Edvard Munch (1890) -also painted "The Scream", may have had borderline personality disorder

“A glass of absinthe is as poetical as anything in the world. What difference is there between a glass of absinthe and a sunset?”

“The American writer Ernest Hemingway, born in 1899, was a heavy drinker, and a passionate lover of absinthe, which he continued drinking in Spain and Cuba, long after it was banned in France. Hemingway himself used to admit that a glass of absinthe was his main source of inspiration that would help him start his day.”

“Death in the Afternoon, also called the Hemingway or the Hemingway Champagne, is a cocktail made up of absinthe and Champagne, invented by Ernest Hemingway. ... ‘Pour one jigger absinthe into a Champagne glass. Add iced Champagne until it attains the proper opalescent milkiness. Drink three to five of these slowly.’”

Hemingway was so fond of cats that there were reports that he had over “70, maybe 80 cats”!

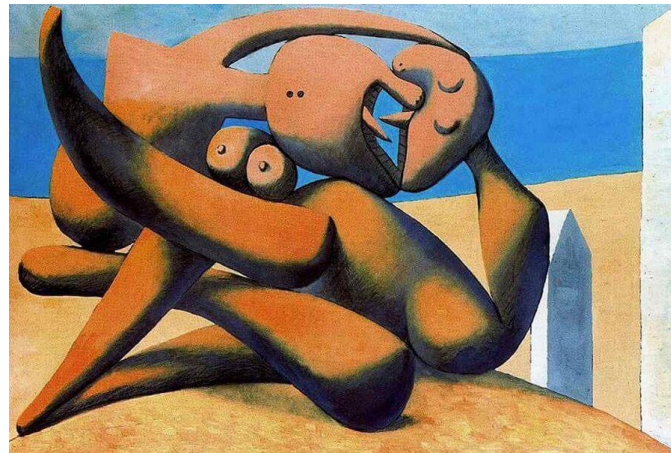




"Glass of absinthe"-Picasso (1911)



"The Café Terrace"-Diego Rivera (1915-note absinthe spoon)



"The seaside"-Picasso (1931)

Artwork inspired by absinthe, or "disordered" by toxoplasma?

Absinthe is made from wormwood, and wormwood is used to treat both malaria and toxoplasma. Wormwood was first mentioned as a treatment for parasites in Egypt, at the same time that cats were domesticated there, in 3500 BC.

How absinthe had these effects, or if it really did at all, has been called into question, because later tests showed that, outside of alcoholic effects, **ABSINTHE HAD NO SUCH EFFECTS** on test subjects! It does contain thujone, which can have these effects, but only if taken in very large quantities. Also, the high level of alcohol increases ammonia in the liver in chronic drinkers with liver disease, which could cause seizures and hallucinations. However, this is fatal if not treated, so hallucinations from encephalopathy couldn't be a regular effect of a repeated activity, like absinthe drinking was. However, *t. gondii* increases ammonia as well, so there could have been an excess of ammonia, causing encephalopathy, even without liver disease. Plus, the seizures, hallucinations, and increased sexuality attributed to absinthe all match the effects of *t. gondii*. Importantly, alcohol also feeds *t. gondii* because it's turned into acetate. So, it may be toxoplasma-induced excessive ammonia, dopamine, DHT, oxytocin and glutamate, and lowered GABA and acetylcholine, as well as impaired vision, that inspired these artists, writers, inventors, etc.

Anxiety, nicotine, and fantasy

Charles Darwin and Sigmund Freud were both heavy smokers, and apparently had anxiety. Darwin even wrote a book called "My Age of Anxiety: Fear, Hope, Dread, and the Search for Peace of Mind." Notably, when Freud could no longer open his mouth due to oral cancer, he propped his mouth open so he could smoke! Freud had a theory that man was a "**savage beast**", controlled by **irrational sexual impulses**, whose "inclination to **aggression we can detect in ourselves**". This extreme viewpoint perhaps came from impulses he detected in himself. Coupled with smoking 20 cigars/day and oral cancer, and smoking and oral cancer are linked to *t. gondii*, it may show *t. gondii* infection.

Many other very influential people smoked heavily, such as Winston Churchill, Walt Disney, and W. von Braun (Nazi rocket development, Director/chief architect of the Apollo moon landing, who also advocated for a **human mission to Mars**), to name but a few. Tobacco use is common with *t. gondii* infection-related disorders such as anxiety, ADHD, bipolar, schizophrenia, major depressive disorder, and Asperger's. This may be because *t. gondii* lowers acetylcholine and affects NMDA receptor action, which are needed for the "alpha state" of attentive listening, learning, and "rest and digest", and nicotine increases both. However, too much nicotine can cause euphoria and fantasies.





Louis Wain, Born 1860

Painter Louis Wain painted anthropomorphized pictures of cats from the 1880's until his death in 1937. He struggled with mental illness, perhaps schizophrenia, same as his sister. He was also very sensitive to electricity, perhaps due to damaged myelin. Thus, he may have been infected with *t. gondii*, as has been suggested by psychologists.

Regarding Life, The
Wisest Men Of All
Ages Have Judged
Alike: It Is Worthless.

- Friedrich Nietzsche

LinesQuotes.com

What is more harmful than
any vice? Practical sympathy and
pity for all the failures
and all the weak :
Christianity.

Friedrich Nietzsche

Friedrich
Nietzsche
-influenced WW2

Had many t. gondii-related
health problems:

- episodes of temporary
blindness, migraines, and
"violent digestion" since
early childhood, worsening
until age 35, when he had to
stop working.
- "extensive" use of sedatives.
- insane by age 45, died at 55.
- thought to have had bipolar.

BELLY OF THE BEAST-feeding toxoplasma gondii

In poverty-stricken post-WWI Germany, people ate high linoleic acid cottonseed oil, invented in Germany in the early 1900's, and margarine instead of lard, butter, and chicken fat (schmaltz). Hitler was a vegetarian, likely eating a lot of grains, and he ate a third of a chocolate cake and sweet biscuits for breakfast! Notably, toxoplasma thrives on a high carb diet (lowers zinc), linoleic acid (LA) and the arginine, fiber, lectins in grains, also uses the fat in chocolate for its cyst wall. In addition, animal fat is the only source of arachidonic acid, needed to destroy toxoplasma. Hitler seems to have had schizoaffective disorder, narcissism, or anti-social personality disorder, which are all linked to *t. gondii*. In addition, Hitler's minister of propaganda, Joseph Goebbels, apparently was narcissistic and highly sexual. *T. gondii* infection in Germany is particularly high, so both Hitler and Goebbels may have been infected. Besides the effects of gossypol, when dietary cholesterol, only in animal foods, is low, sex hormones are low. So, diet and *t. gondii* likely contributed to the sexuality of the Weimar Republic (where the first sex-change operation was performed), with bars also named after cats: "Kit-Kat Klub" and "Mother Cat". Hitler gained support for his extremist, violent ideas in reaction to this culture.

Goebbels learned propaganda from the "father of propaganda", Edward Bernays, and Bernays formulated his ideas of mass hypnosis from his uncle, Sigmund Freud. Bernays' purpose was to "control the public mind". He was a master at manipulation, and thought everyone besides himself was stupid (according to his daughter). So, this also may be evidence of *t. gondii*. One of his clients was Proctor and Gamble, the maker of Crisco in the U.S. Bernays' tactics would cause Americans to also stop eating animal fat and eat more linoleic acid, as his client P&G funded the American Heart Association in order to sell their Crisco. Now we also have the high carb, LA, chocolate, and low animal fat/cholesterol diet of the Weimar Republic-feeding the beast: *t. gondii*.¹⁹⁰

Post WW2 to
Present:
AHA
guidelines
feed t. gondii
with grain,
sugar, and oil

1948: Ancel Keys arranged for Proctor and Gamble to pay the American Heart Association \$1.7 million through a contest. Edward Bernays was a PR man for P&G. Yet, Crisco was 100% cottonseed oil, with a poison-gossypol-that causes heart disease-CAD-by blocking the cholesterol transporter, so the liver overproduces cholesterol-made from carbs.

1956: The AHA claimed that dietary cholesterol causes CAD, and told Americans to stop eating eggs, animal fat, and to eat Crisco instead. Yet, deaths from CAD continued, then rapidly decreased in the late 70's, when Crisco consumption plummeted, while MEAT CONSUMPTION WAS RISING.

1980: The AHA and the USDA issue dietary guidelines for Americans to eat more grains, and to minimize meat and animal fat. ADHD, autism, anxiety, epilepsy, Alzheimer's, bipolar, obesity, diabetes increase as people eat excessive grain, sugar, and oils, maybe from lack of energy. Plus, there are more chemicals, but less protective fat in the brain.

2010's: Multiple studies disprove cholesterol hypothesis.

2023: Yet, AHA still equates dietary cholesterol with CAD, and says to avoid meat/dairy fat and other ancestral foods.

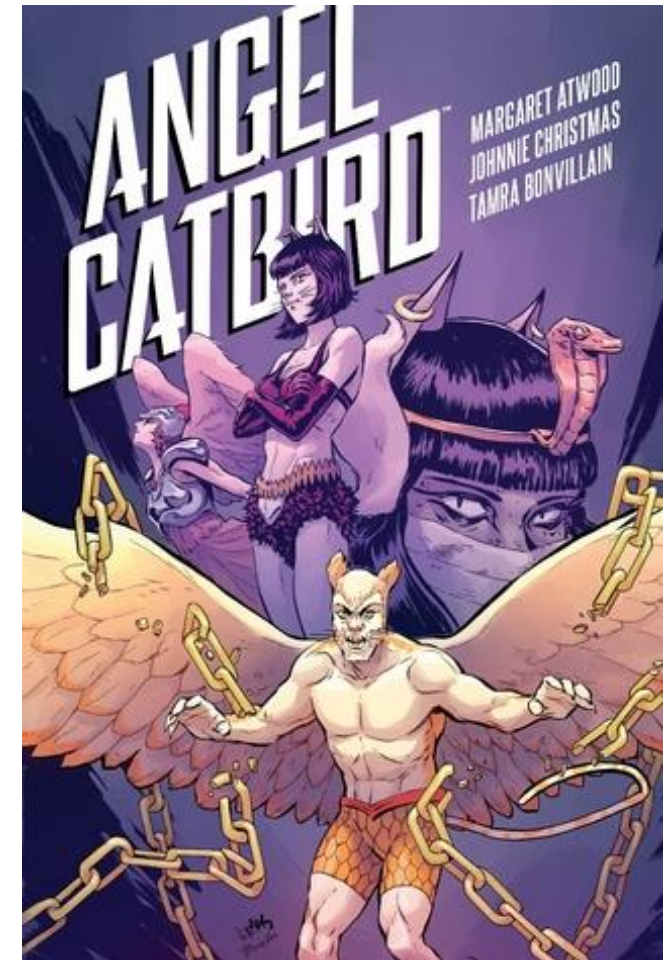
The Kat Comes to the U.S.

1952-1972: Movies

- Moulin Rouge (absinthe)
- Guys and Dolls (cat dance)
- Can-Can
- Gigi
- Breakfast at Tiffany's
- Gypsy
- Cabaret (Kit-Kat Klub)



Le Chat Noir poster is shown in this movie.



2017-The Eye of Ra?



"Cuties" on Netflix"

Influence in Media:
according to film
director David Mamet,
"every major US film
director had Asperger's,"
and that characteristics
of Asperger's, like
**"indifference to social
norms,"** helped make the
movies."

1980's: Asperger's and computers

Perhaps due to poor communication skills and preferring systems and rules over empathy and intuition, people with Asperger's spend more time communicating via computers than others do. They are also most comfortable working in the **computer industry**, which now plays a leading role in "almost all sectors of the economy and our life. The Internet of Things (5G), artificial intelligence, machine learning, autonomous vehicles, and augmented and **virtual reality** are all changing society and industries."

So, the growing computer and 5G industry, and its influence on everyday life, may be driven, at least in part, by the growing number of people with Asperger's. Plus, the current disparity in wealth is due in large part to billionaire computer industrialists keeping their wealth, rather than donating it to charities. With many in this industry having Asperger's, with its lower empathy, they may be unable to understand the benefits of using their wealth to improve their communities, like earlier entrepreneurs would, and the lives of the poor.



OUR COSMIC ORIGIN



Eye of
Horus

OPEN YOUR EYES ABOUT
EARTH'S PLACE IN THE
MULTIVERSE AND
ABOUT A GREATER
ORGANIZATION OF THE
COSMOS.

<https://www.amazon.com/Our-Cosmic-Origin-Knowledge-preparation/dp/B09FS9NV55>

Angel Number 1111 - 11 Reasons Why Your Angels Want You to Have More Money

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CELESTIAL INSPIRATION

Your guardian
angel
believes in
you. You are
a warrior
like them.



CELESTIAL INSPIRATION

"Magical thinking" "indigo children" and "starseeds" may be infected with toxoplasma. Their most common diagnoses: Asperger's, ADHD, autism, anxiety, depression, bipolar. "Many are vegan." Many of their leaders have Rh- blood, so are more affected by toxoplasma. Interestingly, they follow the cosmology of the Assyrians, where t. gondii began.¹⁰⁵



THE TRAGEDY OF BIPOLAR

The U.S. has the highest percentage of people with bipolar in the world. Notably, straight-A students are 5 times more likely to be bipolar, so they're highly intelligent and thus can be very influential.

People with bipolar are at higher risk for drug abuse and, as a result, for violent actions and suicide. People who are killed by police are often bipolar, perhaps because they don't respond predictably, or over-react, thus looking more dangerous than they are.

In 2020 and 2021, many shootings, by police and others, including by Kyle Rittenhouse, were of people diagnosed with bipolar. One of those killed in Kenosha had just finished cleaning up the house he had grown up in, which was piled high with cat feces, among many other things (his mother was a hoarder). Also, the person who killed and injured dozens of people at the Waukesha Christmas Parade, has bipolar. So, although only a small percentage of Americans have bipolar, they have a huge and serious impact on the nation.

Homelessness-"Numerous studies have reported that **approximately one-third of homeless persons** have a serious mental illness, mostly schizophrenia or bipolar disorder."

Bipolar Euphoria-Focus on "Self"

"When I'm in the grips of mania, I love Bipolar. The euphoria I feel is like no other drug. The feeling is addictive and I never want it to end. The mania is unbelievably epic, like I'm living in a blockbuster movie and **I'm the star. The whole universe revolves around me.** Continually going through my head are thoughts that instill an enormous, gratifying confidence: 'I'm the best at everything!' 'I can do anything, be anyone!' 'Nothing can touch me. I'm invincible!'"

Bastet worship continues from Ancient Egypt to Wicca in the present

From Wicca Websites:

"There are a lot of people with bipolar disorder and depression in the Pagan and Wiccan community at large."

"We as Wiccan Pagans, like our ancestors since the dawn of creation, have worshiped the Goddesses personified by the feline for their great beauty, cunning, and high awareness of the ethereal elements of our divine existence. In addition, all cats are highly sensual creatures that invoke our own sexuality—that which is scorned in Abrahamic religions and embraced in Wicca. ..The sect of Bast centered in the city of Bubastis in the Egyptian Delta near the modern city of Zagazig*. Here in April or May as many as 700,000 pilgrims would visit her splendid temple where they would drink, feast, sing, dance and make love capriciously in what were likely the largest orgies ever known."



Extremist politics and a polarized nation

Up to 40% of American adults are infected with *t. gondii*, with its over-stimulating effects on thinking and emotions, and *t. gondii*-related disorders like anxiety, ADHD, and Asperger's are increasing. So, it's not hard to believe that toxoplasma is contributing to extremist politics. Toxoplasma effects include lack of empathy or remorse, anxiety/OCD, over-emotionality, hyperactivity, paranoia, rage and hate, impulsiveness and risk-taking, high intelligence, narcissism, depression and masochism, self-harm and suicide, magical thinking and dissociation, hypersexuality, mood swings, perfectionism ("my way or the highway"), over-confidence, theft and property damage, drug use, and idealization (thinking a group of people are either all-good or all-bad). Whew! So, it's no surprise that suicide, murder, rape, theft, drugs, unusual sexuality, human trafficking, and child abuse are common occurrences. Also, people are unable to understand another's point of view, so rights are abused on every side. Instead, activists hyperfocus on a certain perspective of a few issues, and then hate, and seek to control, the people who disagree with them. Similarly, many people impulsively over-react to their fears, and then resort to extreme solutions, even violence. Perhaps worst of all, many people passively follow these "influencers", without questioning them or thinking for themselves.

As devastating as this situation is for our country and culture, it's unlikely to change until we improve our mental health. The only time that testing for toxoplasma is recommended is when infection is suspected in pregnant women or their babies, and for people with HIV who have symptoms of AIDS. So, for a more just and rational nation, and happier individuals, we need to test mentally ill people for toxoplasma, and go back to our ancestral foods: for maintaining and healing our brains, and to stop feeding "the beast"!¹⁹

6. TREAT LATENT TOXOPLASMA WITH AN ANCESTRAL DIET

Ketogenic diet treats t. gondii disorders!

Epilepsy: the original condition treated by the ketogenic diet (KD), and treatment is highly successful., even with “treatment resistance”. Even in ancient times, epilepsy was treated with fasting and, in the KD, you “fast” from carbs. “The rationale for the use of the KD for mood disorders is based on the potential mood stabilizing effects through modifying dopamine and serotonin and GABA/glutamatergic neurotransmission”. For example, ketone butyric acid causes GABA production, ketone acetic acid prevents GABA breakdown. Epilepsy med sodium butyrate is a ketone, valproic acid is similar to caprylic acid, a MCT.

Anxiety, depression, brain tumors, Alzheimer’s, migraine, autism: from a summary of these t. gondii-related disorders-“there is an emerging literature supporting the broad use of the ketogenic diet for these illnesses, although **the mechanism that has these effects “remain unknown.”** **Anorexia** (an anxiety disorder): a KD with fasting may prolong anorexia psychologically. But, an anorexic was successfully treated with a KD and ketamine, which blocks NMDA receptors. Another researcher thought a KD alone might work.

Schizophrenia, Schizoaffective Disorder, ADHD, Major Depressive Disorder: many with “treatment-resistance”-“significant improvements” and, in many cases, off all meds, with KD.

Bipolar: case studies show that people can stabilize their moods with KD and stop medication.

Alcoholism: people on KD had easier withdrawal, needed less meds for detox, fewer alcohol cravings

Diabetes/obesity: KD is very effective for these conditions, perhaps due in part to treating for t. gondii¹¹¹

We feed t. gondii with carbs, LA, fiber, arginine

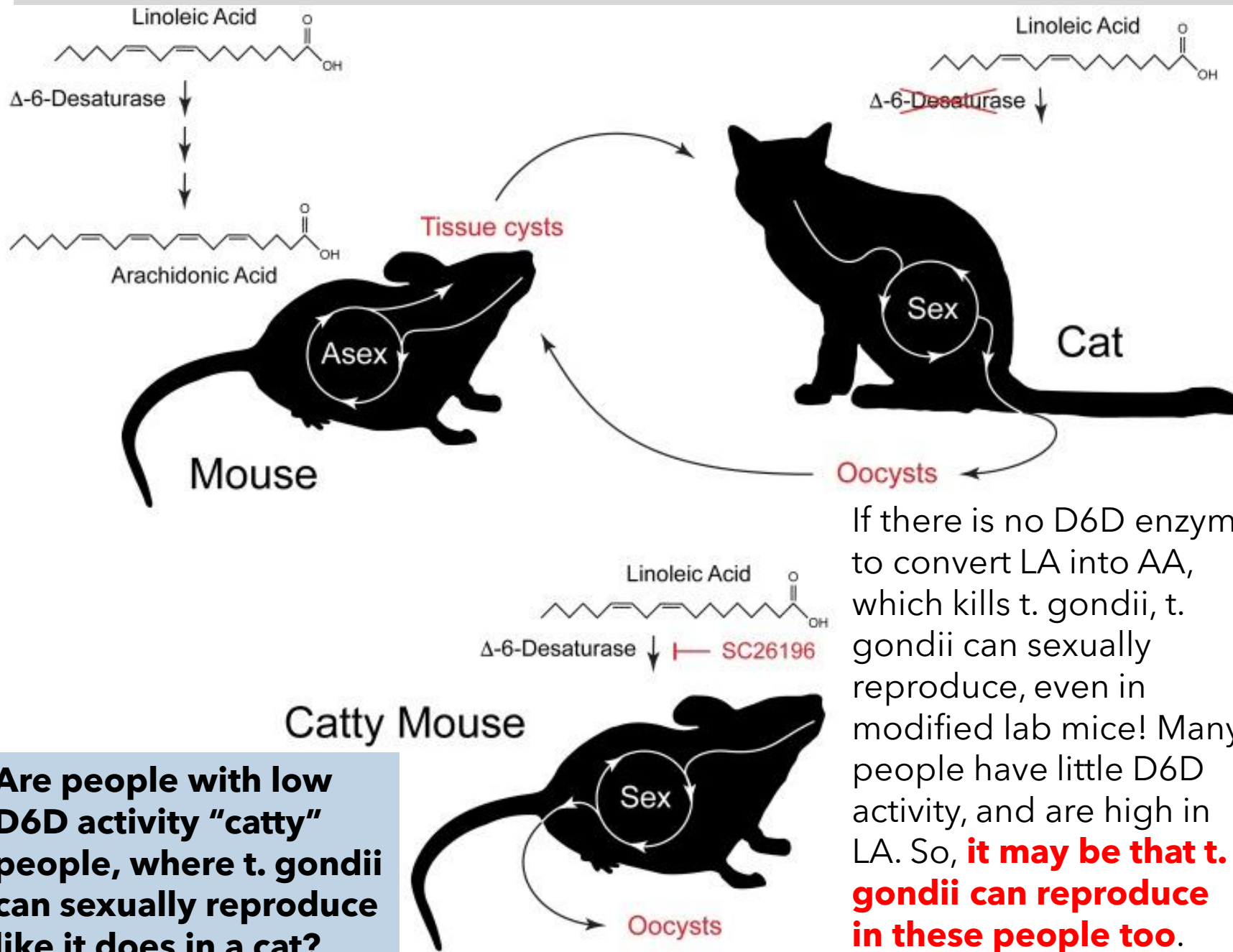
- CARBOHYDRATES: T. gondii survives and replicates when fed by glucose. Also, unlike other pathogens, it “actively penetrates” into cells as it’s “highly glycosylated”-covered with sugar taken from sugar in the diet! It also needs glutamine, which is increased in the brain with a high carb diet.
- LINOLEIC ACID: T. gondii needs LA for sexual reproduction. Before humans ate grains and modern oils, we ate little LA. We also ate animal fat, the only source for arachidonic acid, which destroys t. gondii. Now, many people eat high LA foods (oils, peanuts, soy, nuts, seeds, wheat) instead of foods high in AA (liver, egg yolks, butter, fatty meat), so t. gondii can persist. Alcoholics, smokers, diabetics, obese, and elderly have little to no D6D to convert LA to AA, perhaps similar to a cat (next slide).
- LECTINS AND FIBER: Lectins (ex. wheat germ, soy, peanuts) bind to cysts, enabling them to attach and enter cells. T. gondii uses oligosaccharide fiber, in grains, legumes, fruit, and some vegetables, nuts, and seeds, for the cyst wall. Traditional fermentation and long cooking lowers lectins and oligosaccharides.
- ARACHIDIC ACID: T. gondii needs a rare fat for its cyst-arachidic acid-that’s in **coconut, chocolate, corn, peanuts, and blackseed**. Arachidic acid is found with anaerobic fungi, and t. gondii is classified as a fungi.
- ARGININE: T. gondii also needs arginine for growth hormone, plus excess arginine forms the purines it needs. Arginine deprivation during active infection causes the rapidly growing t. gondii tachyzoites to convert into slow growing, encysted bradyzoites. In contrast, lysine lowers and controls excess arginine.

"Individuals who possess more arachidonic acid could be better protected during t. gondii infection."

ARACHIDONIC ACID AND SALICYLATES: AA destroys t. gondii via enzymes COX-2 and LOX-12. AA was found to protect the pancreatic beta cells, which are damaged by t. gondii. But, many people are low in AA and DHA, which are only in liver, fatty meat (chicken dark meat has more AA than white meat) and fish, egg yolks, and full-fat dairy. Also, some meds block COX-2 and LOX-12, like aspirin (salicylate). Many foods are high in salicylates, such as caffeine, wine, most fruits and many vegetables, herbs and spices, olive and coconut oil. So, these foods block the COX and LOX-12 enzymes that are needed for AA to destroy t. gondii!

There's another critical enzyme in the fight against t. gondii: delta 6 desaturase. D6D converts omega 6 fat linoleic acid into AA and alpha-linolenic acid into DHA. Cats lack D6D, which is the reason they need meat and fish for AA and DHA. **This is why t. gondii reproduce in cats**-cats are high in LA, and t. gondii requires LA for sexual reproduction. Also, cats can't convert LA into AA, as they lack D6D. So, AA is found to be low in cats, so t. gondii isn't destroyed by AA, and can sexually reproduce. D6D enzyme has low activity in humans, especially in those with Northern European descent. In addition, D6D is blocked by high insulin/high blood sugar (from a high carb diet and with diabetes), high dietary LA (from modern oils and peanut butter), alcohol, and low zinc. In this way, **humans with these conditions, and low D6D, may be similar to cats, which might enable sexual reproduction of t. gondii.** Beef fat is very low in LA, lower than other meat fats, eggs, or plant fats, except coconut oil. However, it's very important to avoid cheap ground beef, as well as farmed fish, because cheap ground beef is from old dairy cows, who likely have been fed cottonseed meal for years, and the poison, gossypol, accumulates in the meat. Likewise, fish are commonly fed cottonseed.

“Gestational and early postnatal dietary deprivation of two PUFAs-arachidonic acid (AA) and docosahexaenoic acid (DHA)-elicited schizophrenia-like phenotypes in mouse offspring at adulthood.”



If there is no D6D enzyme to convert LA into AA, which kills *t. gondii*, *t. gondii* can sexually reproduce, even in modified lab mice! Many people have little D6D activity, and are high in LA. So, **it may be that *t. gondii* can reproduce in these people too.**

There's no D6D or arachidonic acid in many humans too, due to modern seed oils, low zinc, high blood sugar, alcohol, and many illnesses. If *t. gondii* can thus sexually reproduce in these humans, that may mean that these humans can infect other humans, as has been found with oral and vaginal sex.

Are people with low D6D activity "catty" people, where *t. gondii* can sexually reproduce like it does in a cat?

Destroy t. gondii by ketosis and arachidonic acid

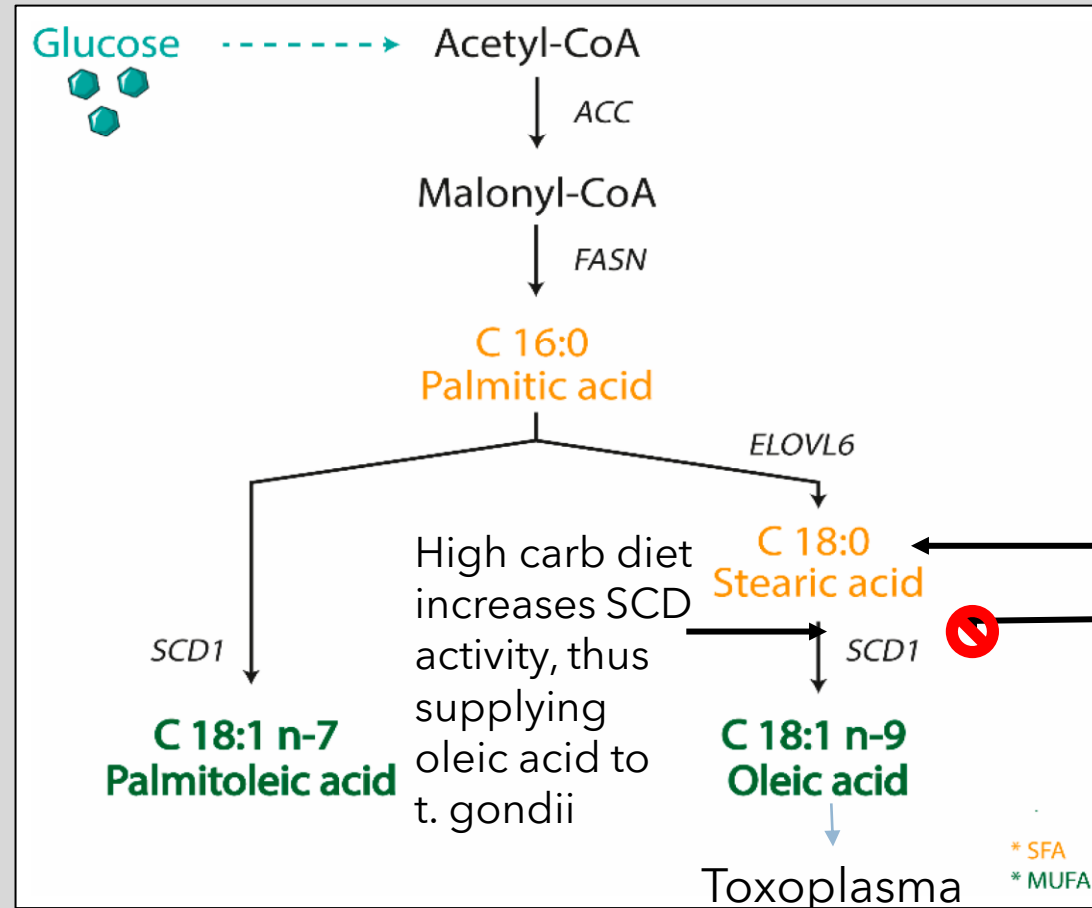
Arachidonic acid (AA) fights t. gondii by activating platelets and TGF- β , via COX-2, and by 12-HETE, via LOX-12. However, COX-2 and LOX-12 are blocked by salicylates.

AA is the most important fat in myelin, the protective covering of neurons, for it determines its "integrity". This is critical to prevent t. gondii invasion into neurons, for "compact myelinated bodies may act as natural barriers for the parasite", as well as the means of destroying the parasite. Thus, **myelin health and functionality "may influence the local parasite load"**.

Autophagy, via ketosis, destroys and removes cells infected with t. gondii cysts. AA induces ketosis with a low carb/high fat diet. Ketosis prevents lipid droplets, which t. gondii requires, from being produced (by turning fat into ketones). Interestingly, lipid droplets also "drive" airway inflammation in asthma, while a ketogenic diet helps with asthma. Ketones block HDAC, preventing t. gondii replication. But, when "simple sugars are consumed", it becomes covered with sugar, evading the immune system.

T. Gondii requires oleic acid (in olive oil), which it acquires from the host cell and the environment. It can also get oleic acid from excess dietary carbs that it converts into palmitic acid. T. gondii takes that fat and then converts it into oleic acid, via its stearoyl " desaturase (SCD) enzyme (next slide). High carb diets cause weight gain and fatty liver via our own SCD, because liver SCD takes the oleic acid that excess carbs have been converted into, and converts and stores them as triglycerides and VLDL in the liver, or they're transported to fat tissue. Notably, SCD is elevated with obesity, metabolic syndrome, and cancer, and higher SCD activity would support t. gondii (with oleic acid). But, AA inhibits SCD (AA is an "important regulator" of SCD), burning the fat for energy via ketosis instead.

Excess glucose (that isn't burned for energy) is turned into saturated fat, either for ketogenesis (with adequate arachidonic acid) or for fat storage (with a high carb diet).



Arachidonic acid blocks SCD and induces ketosis of newly made stearic acid, ("**newly made" stearic acid is "the preferred endogenous activator" of ketogenesis.**") Inhibiting SCD improves blood pressure, glucose tolerance, blood pressure, and triglycerides.

Over-stimulating glutamate due to blood sugar

A 2017 study showed that glutamate (from glutamine), rather than glucose, is the preferred fuel (besides ketones) for neurons, the retina and cornea. This is very important because excess glutamate is an “excitotoxin” that over-stimulates neurons to the point of death, so it needs to be cleared from the brain. However, **neurons, the retina, and cornea can use glutamate for energy only in the absence of blood sugar.** So, when blood sugar is available for energy, the unused glutamate remains in the brain, causing brain damage. Notably, excess glutamate is found with nearly all mental and neurological illnesses, including mania, plus blood sugar is high with many of these illnesses. For example, 53% of people with bipolar have diabetes or pre-diabetes. Thus, lowering blood sugar may be a reason why a ketogenic diet alleviates symptoms for many with bipolar.

Interestingly, *t. gondii* can use both glucose and glutamine for energy, plus it increases glutamate in the process. So, clearing both blood sugar and glutamine-derived extracellular glutamate, by lowering blood sugar with ketogenesis and enabling neurons to absorb glutamate, would help control *t. gondii*.

A leaky gut contributes to mental illnesses, and glutamine is a major fuel for the digestive system lining, preventing leaky gut, also for immune cells, 80% of liver cells, pancreatic beta cells, and for making collagen.

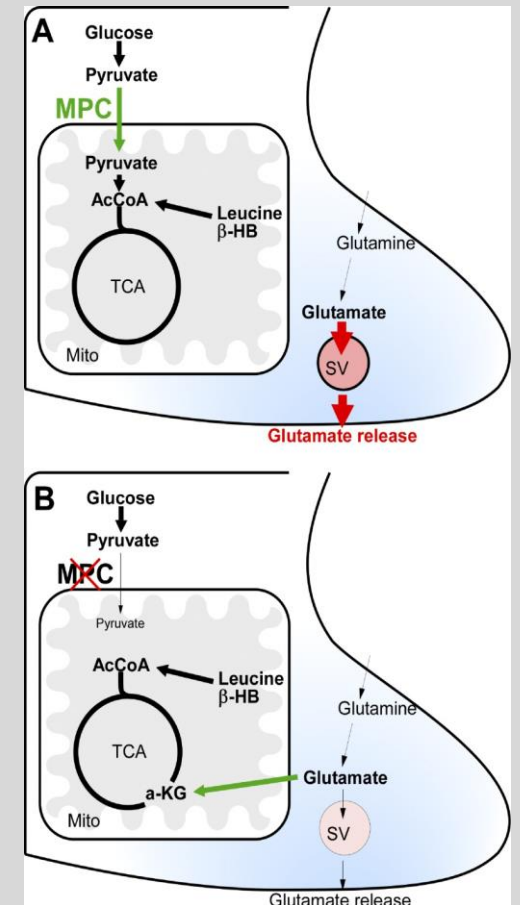
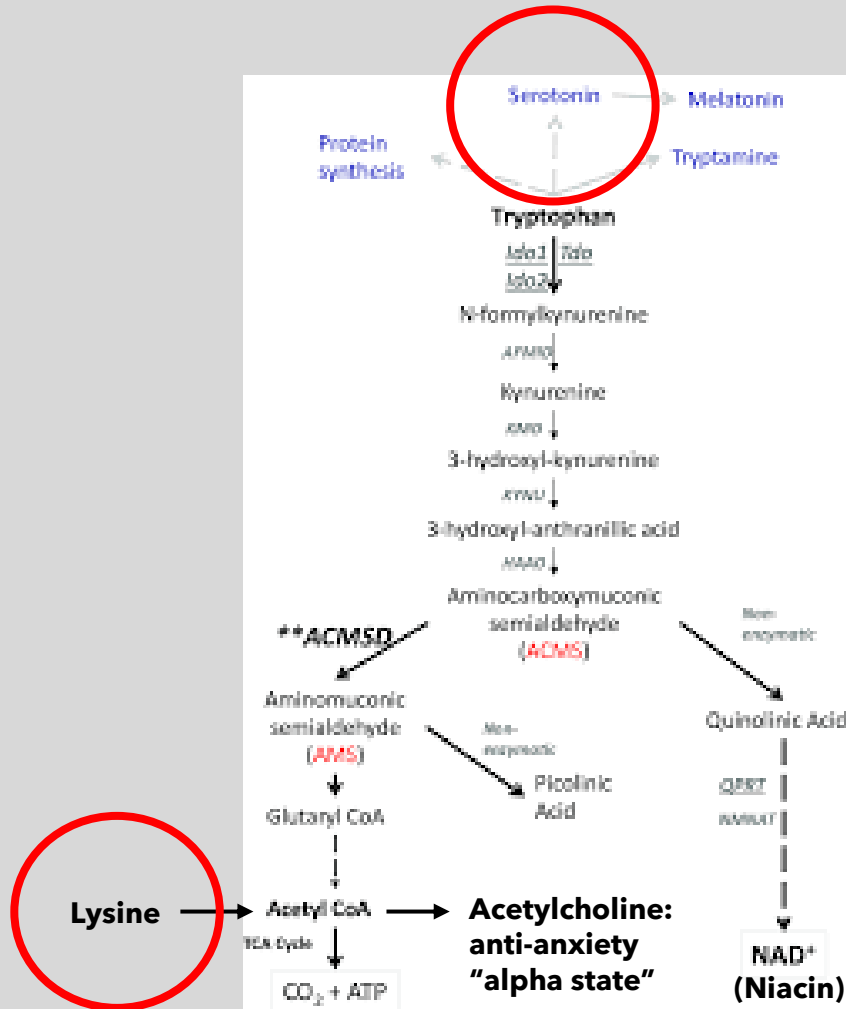


Illustration of “glutamate release” in the presence of glucose.

Lysine, Serotonin, and LA

Lysine does more to treat *t. gondii* than preventing excessive arginine. INF-g breaks down tryptophan in response to *t. gondii*, because *t. gondii* requires tryptophan, so limiting tryptophan restricts its spread. But, tryptophan is the precursor to serotonin (the source for melatonin), so this also causes anxiety and sleeplessness. Adequate niacin and lysine (as a source of acetyl CoA-see diagram) spare tryptophan from being made into acetyl CoA, thus increasing serotonin and melatonin. So both lysine and niacin raise serotonin, lowering anxiety. Andrew Saul, PhD, wrote that niacin is “the best therapy for schizophrenia, ADHD, OCD, anxiety, and bipolar.” Notably, the free radical 9-R-HODE, from linoleic acid, is the only lipid that overstimulates the production of INF-g, perhaps breaking down more tryptophan than needed. So, **high dietary LA, and the excessive INF-g it induces, might be a cause of *t. gondii* anxiety and sleeplessness, and enable *t. gondii* to survive as a cyst.**



Stop craving sugar and detox metals w/lysine and zinc

People with these disorders often have high carb diets, and it's very hard to stop these cravings, as "sugar is more addictive than cocaine". Protein foods curb cravings for carbs as they increase satiety-the feeling that you're no longer hungry. Plus, protein is very important for people with mental illness, as amino acids are needed for hormones and neurotransmitters that are low with these conditions. So, it's very important to not skimp on protein foods.

But the kind of protein is also very important. Many of the protein foods, like peanut and nut butter "fat bombs", and almond and coconut "flours", of modern keto diets are high in arginine and low in lysine, which feed *t. gondii* and contribute to *t. gondii* symptoms! Arginine also raises insulin more than other amino acids, decreases satiety, and increases meal frequency! The original keto diet that treated diabetes and epilepsy was simply ancestral, high lysine proteins: meat, seafood, eggs, and dairy with the digestible A2 casein (from Jersey and Guernsey cows), along with vegetables. These high lysine foods are also high in bio-available essential fats and minerals arachidonic acid, DHA, zinc, calcium, iron, and selenium, and zinc supplements were found to reduce sugar cravings. The best ketogenic diet foods that are highest in zinc are: oysters (cooked-raw oysters can have *t. gondii*), grass-fed beef, chicken, lentils (small servings-as soup), yogurt, mushrooms, and avocado.

Essential minerals also protect against heavy metals-lead, cadmium, aluminum, mercury- which are commonly found with mental illness. Metals are detoxed by a zinc/lysine enzyme, metallothionein, that is increased with zinc supplementation. The blood brain barrier protects from metals to some extent. However, *t. gondii* causes "disruption" in the BBB via increasing glutamate, thus allowing metals and pathogens to enter. For example, Alzheimer's patients have a leaky BBB. Thus, destroying *t. gondii* also prevents further damage to the BBB.

Zinc, C, E: D6D, diabetes, obese, alcohol, smoking

- D6D is a zinc enzyme needed to produce arachidonic acid, and low zinc lowers its activity.
- Supplementing zinc lowers t. gondii infection, perhaps by increasing D6D activity, plus zinc helps with mental illness and diabetes. Acetaldehyde dehydrogenase is a zinc enzyme that detoxes harmful breakdown products from petro-chemicals, and it's decreased by t. gondii. People with impaired ALD are more prone to schizophrenia and autism, which may be due to the chemicals that have been linked to these diseases.
- Zinc is a component of insulin, and thus is depleted by refined carbs and alcohol, as well as by caffeine, intense exercise, and smoking. These foods/activities also lower D6D activity.
- Zinc is mainly in meat, fish, and eggs, plus it's bioavailable in these foods. In contrast, plant foods are high in oxalates and phytates that limit zinc absorption. High copper foods, like chocolate, block zinc absorption.
- Smokers, obese, alcoholics, diabetics, linked to t. gondii, are low in zinc and D6D. Zinc is also low w/teens. T. gondii damages insulin-producing beta cells, lowering insulin in type 1 and type 2 diabetes. The diabetic med Metformin induces ketosis, thus would cause autophagy of t. gondii. So, this might explain its efficacy. Diabetics (who are low in zinc) with t. gondii infection are at higher risk for hypertension than uninfected diabetics. Low zinc causes hypertension, so lowering zinc may be a way that t. gondii causes hypertension.
- Zinc blocks the 5AR enzyme that increases DHT testosterone, and DHT causes insulin resistance and obesity.
- Other nutrients that kill t. gondii are vit. C (rose hips, lemon) and E (low arginine sources: fatty fish, goose meat, avocado, palm oil). Vitamin E is in some fruits and vegetables, but you need fat in order to absorb it.

Special ketogenic diet for t. gondii disorders

- People need to avoid feeding the parasite with glucose, as well as induce autophagy: by activating ketogenesis with a low carb and high fat (esp. essential fats) diet, that is low in arginine, linoleic acid, synthetic folate, and arachidic acid. This is what was working for my brother Ken, when all he was eating was chicken and carrots, especially since poultry is particularly high in arachidonic acid and lysine! So, a high fat/low carb diet, along the lines of the original keto diet, is important for people infected with t. gondii.
- We need to destroy t. gondii, by supporting our immune system: with foods that are high in arachidonic acid (AA), DHA, lysine, and foods that are high in (and don't deplete) zinc. Also, garlic lowers TNF-g (which may be excessive with t. gondii), lowering pain/anxiety. Plus, avoid folic acid and fortified flour and cereals.
- Foods should also be high in nutrients that t. gondii depletes: essential amino acids lysine and tryptophan, vitamins B2, biotin, niacin, B9 and B12 (low B12, needed to protect nerves, may cause t. gondii symptom of the sensation of electric discharge/currents). Vitamin A is also an important anti-t. gondii nutrient.
- Emphasize full-fat ancestral foods, like full-fat chicken soup, eggs, liver (all very high in AA), fatty beef and fish (grass-finished and wild-caught to avoid gossypol), high quality pork and lard, goat cheese (highest in MCT)/other digestible dairy. Add black pepper, horseradish mustard, and fresh ginger to induce ketosis.
- Avoid caffeine, nicotine, alcohol, and refined carbs-they deplete zinc. Avoid oils high in LA or arachidic acid and foods high in arginine: coconut, chocolate, peanuts, corn, wheat, nuts, soy, seeds.

Ketone BHB supplies safe brain/immunity energy

People with t. gondii-related disorders are low in brain energy. This is because t. gondii decreases mitochondria and, thus, energy production. This problem is so much a part of these disorders and their symptoms that these disorders have been described as metabolic disorders. But providing ketone bodies, from a high fat diet, and glutamine, instead of glucose, increases mitochondria and thus helps the brain to function properly.

- When the brain uses carbohydrates for energy, even when brain metabolism hasn't been impaired by t. gondii, many free radicals are created by excess glutamate (that is derived from glutamine). These can damage neurons, myelin, and the blood brain barrier that protects the brain from heavy metals, pathogens, chemicals.
- The brain uses ketones preferentially, when ketones are present, and this creates fewer free radicals. Ketones also supply more energy than glucose. There are three kinds of ketones. Beta-hydroxybutyrate, or BHB, is by far the most abundant ketone, while acetoacetate and acetone make a minimal contribution to energy.
- Taking BHB as a supplement is thought to slow weight loss. However, if you're not trying to lose weight, and especially if you're underweight, or if increasing brain energy and improving mental health is your most important goal, it's a good idea to take BHB: for brain, heart, and muscle energy. BHB was shown to improve energy in the brain of Alzheimer's patients and improved cognition.

Butyrate, gut bacteria, bile, and constipation

Butyrate is also made by certain gut bacteria, such as bacteroides and firmicutes, and both of these bacteria groups are increased with higher meat and fat diet, that is, on the ketogenic diet. In contrast, with a diet high in plant foods, prevotella is increased. As mentioned, prevotella increases inflammatory Th17.

Bacteroides and firmicutes are “bile resistant”, which means they aren’t destroyed by bile, while prevotella is destroyed by bile. This is significant, since a major function of bile is to take harmful substances out of the body, which includes preventing bacterial overgrowth. Prevotella feeds t. gondii by making acetate, and by breaking down oligosaccharides in fiber, which then provide part of the cyst of t. gondii. High prevotella, often along with low bacteroides and firmicutes, have been found with many t. gondii-related disorders, such as major depression, smoking, obesity, chronic ear infections, and high blood sugar (all can be related to mental disorders), as well as rheumatoid arthritis, pneumonia, and HIV, also gingivitis. But, with healthy production of bile, prevotella likely wouldn’t build up to these harmful levels, which would then lessen vulnerability to t. gondii infection, as well as lowering Th17, which drives autoimmune diseases. Bile breaks down fats, inducing ketosis, which is another way t. gondii is controlled, plus **bile destroys t. gondii**. Bile also breaks down excess LDL and disposes it, plus mercury is taken out of the body “primarily via bile and feces”.

Fiber is highly recommended because it helps with bowel movements, so it may seem unhealthy to lower fiber, even though this will lower prevotella. However, **bile also stimulates bowel movements**. So, if you have low bile production or poor bile flow, this can cause constipation. Problems with bile production and gall bladder function are very common, due in part to a low-fat diet. So, low bile, instead of low fiber, may be a major cause of constipation at this time. In contrast, a diet high in fat, saturated fat in particular, stimulates bile flow. Taurine (shellfish), glycine, fresh ginger, lemon, choline (yolks), and betaine (beets) also support bile flow.

**This diet is high in saturated fat, but
SATURATED FATS ARE NOT THE PROBLEM!**

"Researchers found that replacing saturated fats with omega-6 linoleic acid (modern oils) lowered LDL cholesterol (thus lowering sex hormones), but increased the risk of death from coronary artery disease. The authors noted that oxidized linoleic acid is the most abundant oxidized fatty acid in oxLDL."
"The evidence is resounding that oxLDL is important in the formation of atherosclerosis."

Minimize salicylates/amines for t. gondii disorders

“There are many similarities between the clinical signs of patients suffering from mitochondrial dysfunction and toxoplasmosis. Mitochondrial dysfunction is also associated with neurodegenerative diseases such as Parkinson's disease, Alzheimer's disease, and schizophrenia. This is of interest as associations between *T. gondii* infection and Parkinson's, Alzheimer's disease, and schizophrenia have been proposed. These findings suggest that the **disruption of host mitochondria may play a role in the pathogenesis of toxoplasmosis and clinical signs observed in congenital and acquired infections.**” In contrast, ketogenesis increases the number of mitochondria in cells, and provides the much-needed energy for these patients.

Salicylates, such as aspirin, food additives, and many fruits and vegetables, also decrease mitochondrial energy. Also, salicylates are phenols, and people with ADHD, autism, and Asperger's are extra-sensitive to phenols. Per Dr. Feingold, salicylates contribute to the hyperactivity, compulsive activities, perceptual disturbances, and daydreaming found with these disorders. These disorders are linked to fetal exposure to phenols, which are widely found in medications and personal care, household, art, and agricultural products, so this may explain the need to avoid phenols. Dr. Feingold created a special diet for people with ADHD and autism spectrum disorders which is low in phenols, also glutamate (MSG) and amines. *T. gondii* lowers MAO-A, which is needed to break down amines. MAO-A also breaks down dopamine and adrenaline, which toxoplasma infection increases. So, amines are limited in the diet.

Avoid phenol-rich foods

Top polyphenol-rich foods

- Apples
- Blackberries
- Black tea
- Blueberries
- Broccoli
- Cereal bran
- Cherries
- Cherry tomatoes
- Coffee
- Cranberries
- Dark chocolate
- Green tea
- Oranges
- Peaches
- Plums
- Raspberries
- Red grapes
- Red onions
- Spinach
- Strawberries



Williamson 2008

Emphasize mainly frozen (not packaged), meat/fish, animal fat, egg yolks, mild lettuce, crucifers, goat dairy (avoids hard-to-digest casein) and other low phenol foods.

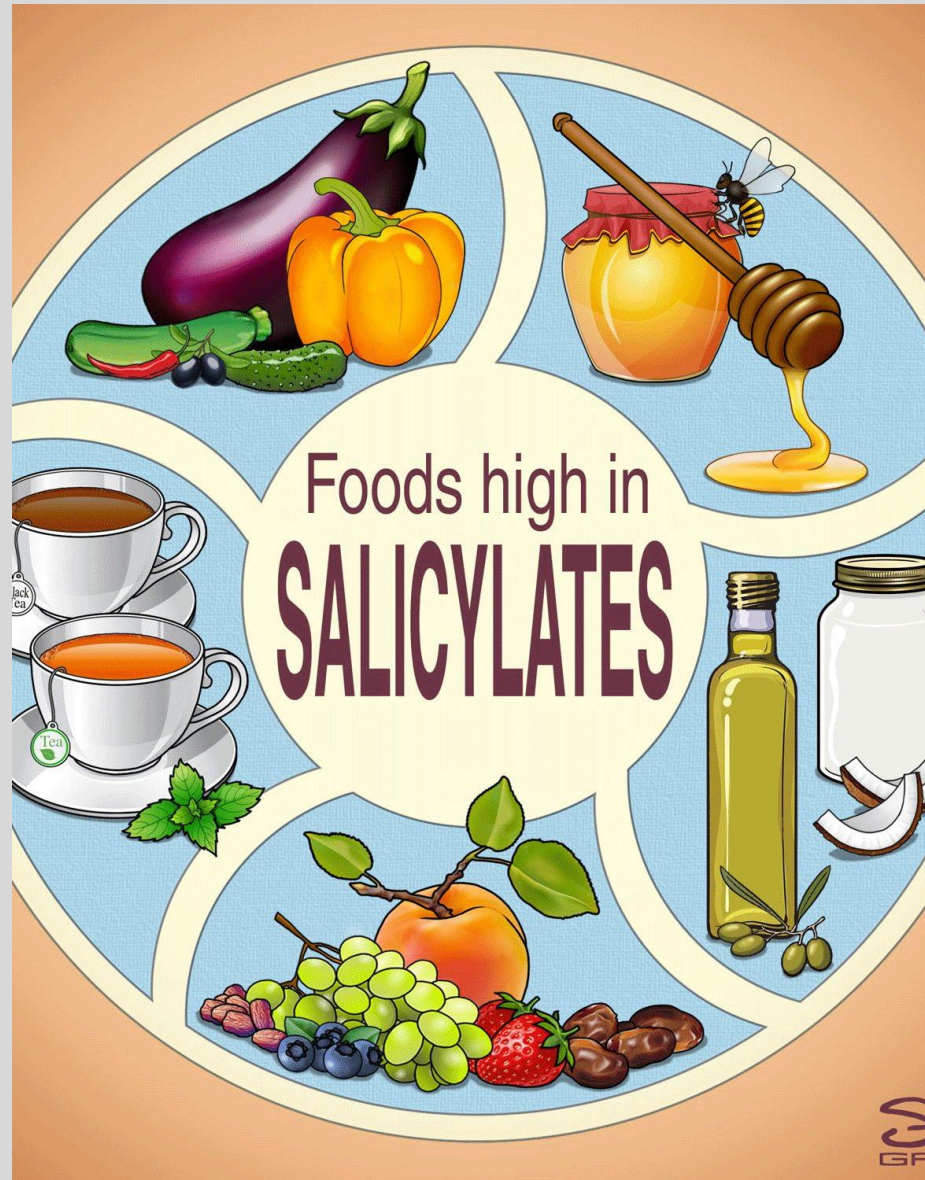
Extra sensitivity to phenols in foods, including salicylates, can be due to candida, also to low PST enzyme and low sulfate (related to low glutathione), which detoxify phenols. People with other mental and neurological disorders may also be sensitive to phenols, because phenols are related to industrial phenols that form the basis of plastics, drugs, herbicides, detergents, hand sanitizers, and adhesives. As a result, phenol detox systems may be over-loaded with these chemicals, especially since *t. gondii* inhibits detoxification by glutathione. Signs of phenol sensitivity include aggression, dark eye circles, insomnia, fatigue, headaches, hyperactivity, impatience, excessive laughter (problem with Tourette's), bed wetting, rhinitis, red cheeks, and self-harm. The ketogenic diet should help reduce phenol sensitivity, as it supports detoxification and increases glutathione, plus it supports the fight against candida.

Salicylates and amines

- Although getting into ketosis is important for treating t. gondii, modern ketogenic diets include many foods high in salicylates, and many people with t. gondii-related disorders besides autism spectrum disorders, like schizophrenia, anxiety, and bipolar, are extra-sensitive to salicylates. Besides lowering mitochondrial energy, salicylates block the action of arachidonic acid, which is needed to control t. gondii.
- So, although coconut oil and apple cider vinegar induce ketosis, they're high in salicylates. Also, MCT oil, recommended in nearly all modern keto diets, can induce allergies. Other high salicylate foods include berries, nuts, seeds, olive oil, avocado, coconut, broccoli, cucumber, spinach, peppers, zucchini, eggplant, radish, tomato sauce, herbs and spices. Deli olives contain lipase, so eat a few olives instead of olive oil. Caffeine and cacao are phenols, related to salicylates. If any of these foods worsen symptoms, avoid them.
- Salicylate sensitivity symptoms are many and varied, and include: skin rashes, headache, irritable bowel symptoms, nasal congestion/difficulty breathing, polyps, hay fever, asthma, inattention, ADHD, restlessness, sleep disturbances-frequent waking, sleep apnea, nightmares and bedwetting, anxiety, panic attacks, depression, rapid heartbeat, arrhythmias, tinnitus, hearing loss, joint pain, arthritis, feeling of dissociation, suicidal feelings, uncontrolled rage/weepiness, stammering, withdrawal, apathy, mood swings, phobias, dyslexia, clumsiness, swelling of hands, face and feet, eye inflammation, stomach pain and nausea. Many of these symptoms are associated with t. gondii, so avoiding salicylates in foods may be very beneficial.
- Amines can be a problem with t. gondii, so avoid very ripe tomato/avocado/fruit, balsamic vinegar (use malt vinegar), hot spices (use paprika), fresh fish/meat (use frozen), bone broth (use light broth), and aged¹²⁸ cheese.

Schizophrenia, grains, salicylates, and hot sauce

- "Those with schizophrenia possibly have the worst diet of all the mental disorders".
- The gut biome in schizophrenics have an excess of prevotella (and other bacteria), which is increased with both t. gondii and with grains. Prevotella bacteria have been found to increase Th17, which drives inflammation, and Th17 is increased with schizophrenia.
- A diet that's high in grains, that is, a high carb diet, also deprives the retina and cornea of their proper source of energy, which is glutamine-derived glutamate, since glucose is taken up by the retina and cornea preferentially, as explained on slide 113. This leaves the glutamate, which is toxic, to cause damage to the retina, which is found with schizophrenia. Thus, a ketogenic diet, which lowers blood glucose, enabling the retina to uptake the glutamate, protects the retina and cornea.
- Salicylates in meds and food chemicals, as well as in many foods, increase glutamate by blocking its breakdown and clearance. Plus, they block COX-1, so they increase kynurenic acid, which is already high with schizophrenia. Blocking COX-1 also lowers hormones from arachidonic acid that prevent testosterone from being converted into DHT, so that's very problematic. Furthermore, excessive salicylates can cause tinnitus and panic attacks, which schizophrenics are prone to.
- A ketogenic diet prevented schizophrenic-like behaviors in mice.
- So, schizophrenics may need a low salicylate and grain, or grain-free, ketogenic diet, such as the "Lion Diet" or my brother Ken's chicken and carrot diet. It's very difficult to completely avoid salicylates since so many vegetables are high in them, but capsaicin blocks the effects of salicylates, plus it induces ketosis! So, it should help with both issues to add hot sauce or red pepper flakes to, or to take capsaicin, with meals.



SALICYLATES AND GLUTAMATE

T. gondii infection increases free glutamate, which is often high with mental and neurological diseases, and monosodium glutamate and long-cooked broth are problems with the autism. Salicylates, which block the immune system's response to t. gondii, also increase glutamate by blocking enzymes that break down glutamate. So, it may be very helpful to minimize salicylates with t. gondii infection. Furthermore, salicylates can increase ammonia in children, as they block mitochondrial action. People with Rh- blood, which has a lower rate of ammonia detoxification, are more subject to some of the effects of t. gondii, like personality changes, decreased psychomotor performance, impaired physical and mental health, and excessive weight gain of pregnant infected women. Problems with detoxifying ammonia, due to Rh- blood, may thus cause more problems with foods that are high in salicylates.

SALICYLATES: **increase glutamate**, can raise inflammatory nitric oxide, block ATP production (impairing mitochondria), and block leukocyte anti-bacterial activity, by inhibiting these vital enzymes:

- Glutamate dehydroxylase-needed to break down **glutamate**, is important for the production of collagen and insulin (low in Alzheimer's).
- Glutamate decarboxylase (GAD)-needed to convert **glutamate** into relaxing GABA (which is low in anxiety, insomnia, fibromyalgia). There's low activity of GAD in Alzh., MS, type 1 & 2 diabetes, autism, and epilepsy.
- OGDC-needed to remove excess **glutamate** from synapses. Deficiency induces insulin, causing low blood sugar and stressing the pancreas, increases nitric oxide (OGDC is very low in Alzheimer's).
- Cox 2-if blocked, prevents PGE2 from binding to pain receptors. But, PGE2 is needed to resolve pain, so blocking COX-2 causes chronic pain. PGE2 also protects neurons (PGE2 is low in Alzh.), the stomach, controls bleeding, builds bone, prevents allergies. Blocking Cox-2 can cause aspirin-induced asthma.
- Aldehyde dehydrogenase-needed to break down alcohol and aldehydes, such as formaldehyde.
- In large quantities, salicylates block acetylcholine receptor. AChE enables relaxation, which prevents salicylate sensitivity symptoms of muscle cramps and tremors, stiffness, and spasms.
- Vitamin K-needed to regulate bleeding and calcium metabolism, destroys cancer cells.
- PST-needed to break down phenols, including caffeine, in berries (anthocyanidins), alcohol, food additives, our own hormones, as well as phenols produced by bacterial overgrowth. Salicylates are phenols, so excessive salicylates can limit available PST activity. Phenol build-up causes salicylate sensitivity symptoms like sinus problems/ear infections, insomnia, sensitivity to chemicals/light/touch/noise, over-stimulated brain/chronic fatigue, dark circles under eyes, emotionality, insomnia, eczema, spasms, dyslexia.

Foods that either block or induce fat-burning

AVOID LIPASE INHIBITORS: Many foods that are low in carbohydrates, that are included in ketogenic diets, actually block ketone production by blocking the pancreatic enzyme lipase, which breaks down fat! These foods are highly recommended as being very healthy, and for people who aren't on a ketogenic diet and are eating foods that contain the inflammatory fat linoleic acid, these foods are beneficial. For example, berries improve cognition with lipase inhibitors, so berries block digestion of linoleic acid, thus preventing the negative effect of linoleic acid on cognition. But blocking lipase also blocks production of ketones for the brain, heart, muscle, digestive system, eyes, etc. Many of these foods also block protein digestion.

- Salicylates: many foods (as described on slide 66)
- Caffeine, green and black tea
- Dark chocolate
- Berries, red wine: anthocyanidins, proanthocyanidins, tannins, quercetin (these block protein digestion)
- Fiber: chia, flax, psyllium, etc.
- Phytates: soy/peanuts/grains/nuts/seeds (also block protein digestion)

INSTEAD, EAT FOODS THAT CONTAIN/INCREASE LIPASE: Goat dairy, raw liver, avocado, kefir, miso, deli olives, kimchi, orange peel, rosemary, nutmeg, vinegar (only small amounts of foods high in amines or salts)

A doable ketogenic diet for t. gondii-related disorders

Eating 20 grams of net carbs (total carbs minus fiber) and doing the frequent fasting that's usually required is challenging for those who are struggling with the symptoms of t. gondii. So, although many with mental and neurological disorders are advised to try a keto diet, many either drop out, or turn to the carnivore ("Lion") diet. The Lion Diet can help a lot because, by eating just fresh (frozen) meat and fish, eggs, fresh cheese, and butter, the most problematic foods-with oligosaccharide fiber, salicylates, and lectins, also oxalates, phytates, and amines-are avoided. This diet also enables deep ketosis, which may be necessary for serious disorders like epilepsy and bipolar. The Lion Diet is similar to the ketogenic diet of the 1920's, which was dairy fat and fatty meat with few vegetables and no grains. But, the Lion Diet may be difficult to stick to long-term.

So, to get the brain energy and brain healing benefits of ketosis, there's an alternative diet. This diet limits, not eliminates, salicylates, lectins, amines, etc., and includes a few small servings of bread, legumes or fruit. So, it's more varied, and you can still burn fat for ketones. Deep ketosis, that is, eating just 20 grams of net carbs per day, and avoiding grains and legumes may be necessary, depending on how serious the illness, for significant improvement in symptoms. However, this diet, you still lose sugar cravings, feel more upbeat and focused, and have more energy, though you may still need meds. Also, you'll still lose weight, but more slowly.

Counting carbs is difficult and inaccurate, so Dr. Dan Maggs advise people to make sure they're in ketosis to the extent necessary by these measurements: you're moving toward your goals, like symptoms of mental illness are decreasing, you have enough energy, you're in a good mood, and you're either losing weight or maintaining a healthy weight. But, to make sure you're burning fat, buy a blood ketone level meter, and test daily 3 hours after eating, til you know how many carbs you can eat. You need a min. reading of 0.3 or 0.4.

Have your ketosis and eat bread too: with Keto-Light!

"Have your ketosis and eat bread too: with Keto-Light!" has been developed as a balanced and sustainable alternative to the original very low carb diet. On this diet, you can have up to 50 grams of net carbs per day of bread, legumes and fruit, and still make ketones from dietary fat, by emphasizing the most ketogenic foods, like in the original ketogenic diet: fatty meat, soups and stews, fatty fish, full-fat dairy products (except milk-too high in carbs), and eggs. In addition, you avoid low carb foods and drinks that block ketosis. It's very important to use ketosis-inducing condiments, especially on fatty foods, and drink ketosis-inducing drinks. In this way, you can eat small servings of long-fermented bread, legumes, popcorn, fruit, and yogurt, as long as you stay under 50 grams of net carbs. Gluten intolerance may be an issue with these disorders, but rye is so low in gluten that people who are intolerant to gluten can often eat rye bread with no problems.

The diet has low to moderate salicylates, phenols and amines, such as parsley, garlic, peas, cauliflower, green beans, Brussels sprouts, celery, Boston lettuce/romaine. Malt vinegar and horseradish induce ketosis and are low in salicylates, but may be high in amines, so only use small quantities. Ketosis-inducing teas that are lower in salicylates include chamomile, nettle, ginger, rose hips, and red clover. Eat small amounts of peeled golden delicious apple/pear, watermelon, sour cherries, mango, decaf coffee, and ketosis-inducing but high salicylate and amine avocado, black pepper, mustard, and hot sauce, as you can tolerate them.

If you avoid ketosis-blocking foods and stick to recommended foods, as listed on the next slides, the only carbohydrates you have to count are those in higher carbohydrate foods.

Sugar: induces high levels of insulin, which blocks ketosis

- High-fructose corn syrup and sugar are nearly the same: HFCS-60% fructose/40% glucose
Sugar-50% fructose/50% glucose. Fruit contains fructose and glucose in varying amounts
- Honey, maple syrup, agave
- Alcohol
- Refined flour
- Grapes
- Watermelon
- Very ripe banana

Foods with significant amounts of unstable omega 6 fat linoleic acid (LA). Little to no LA is converted to functional omega fats and, instead, forms free radicals that block ketosis. The plant omega 3 fat also easily forms free radicals:

- Oils made from seeds
- Cheap olive oil (high in LA)
- Nuts, seeds, soy, peanuts, whole wheat, quinoa

Foods that block lipase:

- Green and black tea
- Red wine
- Dark chocolate
- Berries: anthocyanidins
- Fiber: chia, flax, psyllium, etc.
- Phytates: soy/grains/nuts/seeds
- Salicylates: see "Salicylates and amines".

AVOID FOODS THAT BLOCK KETOSIS

These foods are often added to processed foods, restaurant, and deli foods, so it's very important to check for these foods, and to count their net carbs toward your total.

Most Important Foods for Ketosis:

- Pastured fatty meat, butter, sour cream, bacon fat, lard, schmaltz, tallow, coconut/MCT oil, broth, EVOO
- Goat, sheep, and cow dairy. (goat milk fat has highest MCT)
- Eggs (esp. yolks), liver/other organs
- Mercury-safe, sustainable seafood
- Lipase-avocado, kimchi, kefir, miso, nutmeg, orange peel, rosemary, deli (brined) olives
- Tea: fresh ginger/chamomile/sage/red clover/nettle/dandelion/lemon verbena/rose hips/lemon verbena/bergamot/fennel/Earl Gray/black
- Black pepper, cayenne, mustard, horseradish, fresh ginger, cinnamon, rosemary, dill, thyme, chives, poppy oregano, fennel, caraway, seeds

Low Carb Vegetables:

- Raw: Boston lettuce, romaine, parsley, scallion, , daikon, celery radish, pea shoots, cuke, tomato
- Cooked: celery, Brussels sprouts, asparagus, mushrooms, turnip, cauliflower, cabbage, collards, green beans, leeks, celery root, kohlrabi, eggplant, zucchini. spaghetti squash, artichokes
- Lacto-fermented vegetables: sauerkraut, beets, pickles

Some vegetables are a little higher in carbs, so you should limit them to 3 per day. If you eat more, count toward your 50 grams of net carbs. Servings have about 6 net grams of carbs.

- Rutabaga, carrots: $\frac{3}{4}$ cup
- Onion, peas: $\frac{1}{2}$ cup
- Beets, pumpkin, parsnip, tomato sauce: $\frac{1}{3}$ cup

MOST KETOGENIC FOODS: NO NEED TO COUNT CARBS

It's important to eat high quality food if you have health problems. So, as your budget allows, buy pastured, organic, wild-caught, and/or humanely-raised meat, fish, eggs, and dairy. Olive oil is often adulterated, so you should use the highest quality. Vegetables are most nutritious fresh from the farmers market, or frozen when out of season.

These are the only diet foods you need to count for you to be under 50 net grams of carbs. Numbers are approximate as carb content varies.

Bread-1 slice (28 g):

- long-fermented rye bread: 14 g. carbs
- whole wheat bread: 12 g. carbs
- sourdough white bread: 15 g. carbs

Legumes:

- lentil soup-1/3 cup: 8 g. carbs
- pea soup-1/2 cup: 8 g. carbs
- Refried beans-1/4 cup: 8 g. carbs

Full-fat Yogurt-1/2 cup: 6 g. carbs

Popcorn-1 cup popped: 6 g. carbs

Fruit-1/3 cup:

- Strawberries: 3 g. carbs
- Canned sour cherries: 6 g. carbs
- Blueberries: 6 g. carbs
- Golden delicious apple: 4 g. carbs
- Pear: 6 g. carbs

So, in one day, you can have 1-1/2 slices of thickly-buttered rye bread, 1/3 cup lentil soup, 2 servings of yogurt, one with strawberries, and apple slices with cheese. This adds up to 49 g. of net carbs, in addition to 3 servings of meat or fish, plus cheese, eggs, the vegetables described in the last slide, and fat to satiety. Now, that's a lot of good, satisfying food!

FINDING YOUR CARB/FAT LEVEL

We've been told for many years to avoid fat in general, but especially butter, yolks, pork, chicken, and beef fat. So, it's actually hard to eat enough ketogenic fat on this diet-you need to make an effort! Fat is needed to produce ketones, which give you energy. If you're not getting enough energy, or you feel hungry, or your blood ketone level is hovering at just 0.2 or lower, try eating more fat-this could be the problem. But, you may need to eat only 20 grams of carbs for a while to jump-start ketosis, like some people do.

MEAL SUGGESTIONS. Add fat to satiety. Add parsley, black pepper, hot sauce, mustard, horseradish, malt vinegar to fatty and high carb foods. Also eat bread, beans, yogurt, and low carb fruit, no more than 50 grams of net carbs (grams of carbs minus fiber). Recipes are in the next chapter.

ON WAKING-wait 2 hours before eating. Small coffee with ½ tsp. whipping cream (to not break fast), keto tea.

BREAKFAST-3-4 poached eggs w/cheese and asparagus OR collards OR mushrooms OR broccoli OR kohlrabi matchsticks OR tomato/onion OR zucchini egg bake OR crustless quiche. Minimize vegetables if sensitive to salicylates, or add hot sauce or a pinch of cayenne.

-Serve with bacon OR sausage OR ham OR kippers OR steak OR pulled pork on omelet OR filled omelet.

LUNCH-Cold leftover beef OR chicken OR good quality deli meat OR cold baked marinated salmon OR cold shrimp OR chicken liver pate OR canned seafood (or add to soup) OR gyros salad OR lox on rye bread.

-1/3 cup bean or mushroom soup + light broth, parsley, pumpkin/carrot, bacon fat, malt vinegar, hot sauce.

-Salad of lettuce, celery, chevre, daikon, garlic, onion, beet, carrot, hard-boiled egg, ½ avocado, AND/OR deli olives, and malt vinegar with bacon fat, yogurt, or keto mayo for dressing. Meat or fish can be added.

DINNER-no later than 3 hours before bed. Chicken soup OR beef stew OR eggplant crust pizza OR Finnish baked fish OR shrimp spaghetti squash casserole OR hamburgers with lettuce "bun" OR chicken thighs baked w/cabbage OR pork chops OR zucchini lasagna OR borscht OR brisket/sauerkraut OR clams over zoodles OR steak au poivre OR beef liver **Dinner should be the lowest carb meal.**

-Cooked low sal. vegetables-crucifers, carrots, green beans, peas, beets, rutabaga, collards, celery root, beets

NIGHT: ½ cup plain yogurt, chamomile tea sweetened with calming amino acids (½ t. each): serine, glycine (slide 23-serine turns into glycine and vice-versa), threonine (turns into glycine), lysine, taurine (bile/ketosis), and creatine (appears to help the brain heal itself by increasing brain mitochondria)-for a good night sleep.

With spaghetti squash, zoodles (spiralized zucchini), pumpkin, or cauliflower rice already made, there are dozens of easy ways to put together a delicious low carb meal. Here are just a few:

Spaghetti squash pasta or zoodles

- Alfredo: add heavy cream, parmesan cheese and black pepper. Alfredo 2: add chevre and black pepper. To either one, add fresh parsley. Canned fish and shellfish go well with these Alfredos.
- Cut up hamburgers and gravy, or Italian sausage, with sautéed onions or a small amount of fresh tomato sauce and parmesan for a quick dinner.
- Spaghetti squash is a good stand-in for the noodles in chicken noodle soup.

Cauliflower rice

- Use any way you would use rice.
- Goes well with Asian or Mexican flavors
- Cauliflower burger buns
- Pureed roasted cauliflower substitutes as a gluten-free thickener in soups.
- Mashed cauliflower is a stand-in for mashed potatoes.

Baked fresh pumpkin or canned

- Makes a nice bed for saucy, especially Mexican, entrees. If using more than 1/3 of a cup, count the net carbs toward the 50 grams of net carbs.

SPAGHETTI
SQUASH,
ZUCCHINI,
CAULIFLOWER,
AND PUMPKIN:
YOUR NEW BEST
FRIENDS!



While many can get into light ketosis eating 50 net grams of carbs per day, eating less is better and may be necessary at first. So, if you can skip your bread, yogurt or fruit snack, you'll actually have more energy since you'll be making more ketones! This may take time to get used to. But, you don't have to worry about having low blood sugar and being hungry since you're not dependent on carbs for energy, as long as you eat enough fat and protein.

Burning fat isn't quick energy, so be patient after meals-the energy will come. If you're really tired, say at the 2PM slump, take a quick nap or a walk.

Let old habits slip away, like snacking and avoiding exercise. This is a "carb-conscious" diet, without carb counting, so it's important to be conscious of changes in your appetite and energy level, which will allow you to eat less, go longer between eating (and less snacking), and to exercise more. Join a gym. Especially if you're older, exercising is needed to make sure that you build, rather than lose, muscle mass, although this shouldn't be a problem with enough protein. Exercise also trains your muscles to burn fat!

For a quick breakfast, cook vegetables for your eggs the night before.

When you've eaten too many carbs, a good "rescue" is supplemental BHB or 1 T. malt vinegar in water before brushing teeth. Adding vinegar (and oil) to bread and legumes is a traditional practice, perhaps to stay in ketosis.

Have bacon and bacon fat on hand. If you don't like salads, bacon helps to make salads extra good-it can even be a dessert! And, if you're sensitive to butter, bacon fat is great for sautéing and adding to soups.

Always have gelatinous chicken broth in the freezer for quick meals. Sipping a cup of broth technically breaks a fast, but it won't take you out of ketosis.

KETO-HACKS



You lose, not retain, both salt and water when you're in ketosis. This is helpful for high blood pressure, but you need extra salt. Also, it's more difficult to get a lot of vitamin C on this diet. So, drink as many ounces of liquid, including tea, as half your weight. Add lemon and sea salt to water, and lemon to tea.



RECIPES

Don't feed the beast!

These recipes, from the meal suggestions, are lower in oligosaccharides, lectins, carbs, arginine, arachidic acid, lipase-inhibitors, and linoleic acid that feed *t. gondii* (these are high in nuts, peanuts, soy, wheat germ, chocolate, oils). They're also higher in nutrients that support the immune system's fight against *t. gondii*, calm the nervous system, and support brain health. The recipes are also lower in the salicylates that many with *t. gondii*-related disorders are sensitive to. However, the body can detoxify a certain amount of salicylates, so people who are sensitive to them can often eat a small amount of higher salicylate foods. The major problems are with chemical salicylates in processed foods, like food dyes and BHT, and in pain relievers (except for Tylenol), so these should be completely avoided. But, having a few high salicylate foods may not be a big problem, especially if they add enough variety so you can stay on this diet.

Use ketogenic condiments-freshly ground black pepper, horseradish, malt vinegar, mustard-freely, but especially with fatty foods and with higher carb foods. Test with a Keto-Mojo meter 3 hours after eating, to make sure you're burning the fat you eat. 0.3 is minimal, but higher is better. It is very important to never hover at or dip below 0.2 because you need to make enough ketones for adequate energy, and to burn all the fat you're eating. Try to fast for 12 hours, like from 7 PM to 7 AM. Also, it's best to stop eating 3 hours before bed, but having a small yogurt snack before bed may not lower your ketones very much. Taking a ketone supplement before bed helps keep your ketones up, which helps prevents rapid heartbeat or waking in the middle of the night, if these are problems for you. However, supplemental ketones may hinder burning your body fat. The real measurement that the diet is working for you, at your level of carbs and fat, is if you are moving toward your goals, you have a good supply of energy, are either not gaining or are losing weight, aren't hungry between meals, are upbeat and calm, and, above all, have better mental health!

BREAKFAST-wait to eat 2 hours after waking, but can have lemon water, coffee, or ketogenic tea

1.Poached eggs served on a bed of vegetables, or omelet stuffed with vegetables, with meat or fish

Use leftover vegetables if possible. Bacon fat is cheap, convenient, and delicious for sauteing vegetables, but butter could also be used. Frozen broccoli is convenient and quickly made to serve with eggs. If the frozen broccoli includes stalks, as cheaper packages do, use the stalks with the eggs and save the flowerets to serve at dinner. Always sprinkle salt, freshly ground black pepper, and malt vinegar on the egg dishes, to induce ketosis. Other vegetables that work well with eggs:

-ASPARAGUS: frozen is quickest, but it needs to be chopped while frozen. Best in season, even better from the farmer's market. Cut off an inch if fresh, and peel if over ½ inch diameter. Chop into ½ inch pieces, and divide into 2 or 3 groups of thicknesses, and a group of tips. Boil a small amount of salted water. Beginning with the thickest pieces, boil for 2-3 minutes, adding each group separately, until all is fork-tender. Top with poached eggs, also grated cheese, if desired.

-COLLARDS: collard greens are the lowest in salicylates, as well as oxalates, which are a problem with the other greens, but other greens can be used occasionally. Wash thoroughly, as greens are high in pesticides, since they grow close to the ground. Remove core and chop roughly, then cook in salted water for 30-45 minutes, until very tender. Can also boil with chopped onions. Chop fine. Top with poached eggs, also grated cheese if desired. It's good to make extra to put into soup.

-MUSHROOMS: rinse and scrub lightly, then chop roughly if large, or cook whole. Cook on low until mushrooms are soft, adding salt, freshly ground black pepper and malt vinegar at the end. The mushrooms will cook in their own juices, which can be reduced and poured over eggs for more flavor. Canned mushrooms also work well for a quick breakfast.

-KOHLRABI: cut kohlrabi in half. Peel with a heavy-duty peeler or sharp knife. Cut into matchsticks. Heat bacon fat in a frying pan, a tablespoon per cup of kohlrabi, add kohlrabi and cover. Cook until tender, about 20 minutes, adding more fat if needed. Top with poached eggs. Variations-sauté onions with kohlrabi. You can also substitute daikon for kohlrabi.

-TOMATO AND ONION-for 2 people: dice onion, and saute in cast iron pan on low in bacon fat, 1 tablespoon per cup of onion. Sprinkle some paprika, oregano or basil, salt and black pepper. After 10 minutes add 1 cup canned tomatoes (can add chopped sausage or ham at this time). Cook 15 more minutes. Turn up heat to medium, add more bacon fat, and scramble in 6 eggs. Cook until set. OR, with a saucier tomato and ham mixture, you can make Shakshuka. Make 6 wells in mixture and slip 1 egg at a time into wells. Cover, cook 10-12 minutes. OR, it's still delicious made with only tomatoes.

-HOW TO MAKE POACHED EGGS: crack eggs into a bowl and let come to room temperature. Heat 2 inches of water in a frying pan to boiling. Slip in eggs and turn down heat to medium high. If water doesn't cover eggs completely, spoon water over yolks. As soon as eggs are set, before water boils again, take out with a slotted spoon.

Serve these egg dishes with ham, sausage, bacon, canned kippers, or steak, and add parsley for a garnish.

-HAM: if you want to eat ham from humanely-treated pigs, it's cheapest to buy a small ham, bake it, and freeze slices. You just wrap the ham in foil, put into a pan, and bake it according to directions on the package. A small ham is done in less than an hour, so you can even bake it for breakfast. Be sure to save the collagenous liquid that accumulates.

-SAUSAGE: follow directions on the package. It's easy to make sausage gravy: for every tablespoon of fat in the pan, add 1 tablespoon white flour (6 grams carbohydrates). Cook on medium for a few minutes, then add 1 cup of chicken broth and whisk together until hot. Serve with sausage.

-BACON: Bacon from humanely-treated pigs is best. Preheat oven to 375 degrees. Put a cooling rack on baking sheet and put bacon on rack. Bake for 15 minutes, then keep checking until done to your taste. Be sure to save the bacon fat.

-BREAKFAST STEAK: chuckeye, cheaper than ribeye, makes a tender breakfast steak. Can heat leftover steak, or cover with black pepper and salt the night before. Let it come to room temperature 1-1/2 hrs. Heat bacon fat in cast iron pan on medium to medium-high heat. For medium done (130-140 F), cook steak for 6 minutes per side for 1 inch steak, and 7 min./side for 1-1/2 inch steak. Tent with foil 5 minutes. Serve with mushroom soup and sour cream horseradish sauce.



2. Breakfast dishes-these are also good for lunch or dinner

-CROCKPOT PULLED PORK ON OMELET: Can use leftover pulled pork, or make overnight. Cover 5-pound pork roast with salt, pepper, and cumin. Sear in bacon fat in a cast iron pan. Remove roast, and sauté 1 sliced onion and 4 minced garlic cloves. Place onion and garlic on the bottom of crockpot, put roast on top. Add ½ cup malt vinegar and 1 cup chicken broth. Cover and cook until tender, 6-8 hours on high or 8-10 hours on low. Pull pork apart with 2 forks. For egg tortilla: whisk together 2 eggs, 1 tablespoon milk, and a pinch of salt. Heat pan (stainless steel is best) on low, then add 1 tablespoon of butter. When butter foams, then subsides, add half of egg mixture. Swirl the egg mixture for a thin layer and cook until set. It helps to tilt the pan and lift up cooked egg to let uncooked egg go under. Remove from pan, add more butter, and make other omelet. Top with pulled pork and lots of chopped parsley.

-ZUCCHINI EGG BAKE-for 2 people: Peel 2-3 zucchini and coarsely grate for 3 cups. Place in colander, lightly salt, and let sit in sink for 15 minutes. Preheat oven to 400 F. Squeeze out water. Grease a 9x13 pan with bacon fat. Distribute about 6 ounces of ham, bacon or sausage evenly. Whisk 6 eggs, add black pepper and seasoning if desired, and pour over meat. Sprinkle grated cheese on top. Bake for 15 minutes, then insert a sharp knife. Bake until knife comes out clean. Let set for 10 minutes before serving. This recipe, minus the meat and cheese, makes a nice low carb custard, and can be used as the basis for other custard recipes. This recipe can be doubled in a larger pan, and baked longer.

-CRUSTLESS SALMON QUICHE: Preheat oven to 350 F. Whisk together 6 eggs, ¼ cup milk, ½ cup crumbled bacon, ½ cup shredded mozzarella cheese, 1 avocado, cut into chunks, 1-14.75 pound can of salmon, drained and flaked, and 1 teaspoon dried dill or 1 tablespoon finely chopped fresh dill. Rub 9 inch pie plate with bacon fat. Bake for 45 minutes, or until knife inserted into it comes out clean.

LOX (SALMON): spread rye bread with cream cheese. Layer lox, raw onion, tomato or grated beets, and fresh dill.

HAM AND EGG CUPS

- 6 slices (3/4 oz) each sugar-free sliced ham (like Applegate Naturals)
- 2 Tbsp butter
- 1/4 cup chopped red bell pepper
- 1/4 cup chopped zucchini
- 3/4 tsp sea salt
- 1/4 tsp freshly ground pepper
- 5 large eggs
- 1 Tbsp chopped fresh parsley (or 1 tsp dried parsley), optional
- 1/2 tsp onion powder
- 1 Tbsp water
- 1/2 cup shredded sharp cheddar cheese

Preheat oven to 375°F (190C°). Spray 6 cups of a muffin pan with nonstick spray. Place a slice of ham into each sprayed muffin cup, pressing the bottom and sides, and slightly overlapping if necessary to form a cup. In a small skillet over medium heat, melt the butter. Add the bell pepper, zucchini, and one third of the salt. Cook and stir until mostly softened, about 4 minutes. Transfer the vegetables to a medium bowl. Add the eggs, parsley, onion powder, water, and the remaining salt. and the pepper; whisk to combine. Evenly distribute half of the cheese among the ham cups, top with the egg mixture, then top with remaining cheese. Bake until puffed and set with only the slightest jiggle in their centers, 15 to 18 minutes. Let rest for 5 minutes. Turn out the egg cups and serve.



LUNCHES-

DANISH SMØRREBRØD: Spread one piece of rye bread with butter or keto mayo, and layer Boston lettuce then beef, chicken salad, salmon, shrimp, liver pate, or lox. Garnish as described.* Or use more lettuce and no bread.

-LEFTOVER BEEF-see dinner recipes. *GARNISH: lacto-fermented pickle, beet horseradish sauce, crispy-fried shallots

-LEFTOVER CHICKEN-see dinner recipes. Serve chunks in salad, or make chicken salad with grated celery root and keto (no modern oils) mayonnaise. *GARNISH: fresh dill, chopped pea sprouts, avocado, bacon, and lactofermented pickle.

-BAKED MARINATED SALMON: Thaw 2 frozen 5-ounce salmon filets, wild-caught, with skin. Place in glass baking dish. Mix 2 tablespoons tamari sauce, malt vinegar, and 2 tablespoons water, and pour over filets. Peel and mince 2 garlic cloves and place on salmon. Marinate in refrigerator for 1 to 6 hours. Preheat oven to 400 F. Bake 15 minutes. Can be served hot or cold. *GARNISH: fresh dill, horseradish/sour cream sauce, chopped pea sprouts, lactofermented pickle, avocado.

-COLD SHRIMP: Thaw ½ pound frozen shrimp, easy-peel, deveined, shell-on (for best taste) overnight in refrigerator. Boil 6 cups of water with ½ teaspoon salt and ½ lemon, sliced. Have pan of ice water ready. Add shrimp and boil 2 minutes, until pink. Remove shrimp with a slotted spoon and place in ice water. Peel shrimp, rinse. *GARNISH: (small shrimp are best) hard-boiled egg slices, fresh dill, shrimp dip, parsley. OR add to salad or dip in shrimp dip: 2 tablespoons sour cream, 2 tablespoons prepared horseradish, ½ teaspoon paprika, 1 tablespoon sugar-free ketchup, tablespoon lemon juice.

-CHICKEN LIVER PATE: Simmer 1 pound chicken livers in 1 inch of water, uncovered, for 5 minutes. Blend in food processor until somewhat chunky. Add 1 peeled garlic clove, minced, ½ teaspoon salt, 1 teaspoon Worcestershire sauce, ½ cup bacon fat or butter, and 1-2 tablespoons cooking water. Blend briefly and let cool. *GARNISH: bacon, onions and mushrooms sauteed in fat from bacon, pickled or cooked beets, parsley. For cooked beets-boil whole beets, fully covered in water, for ½ hour, or until tender. Place in ice water until cold, then peel by pushing skin with your fingers. Grate.

-HAM: see breakfast recipes for baking a whole ham. *GARNISH: asparagus, radish, mustard, lemon juice

QUICK'N'EASY SOUP-this, plus a salad, cheese, and decaf coffee is the author's usual lunch: 1/3 cup lentil soup, pea soup, or black bean chili-Amy's are good. Add leftover vegetable, like pumpkin, greens, mushrooms, or carrots, and ½ cup chicken broth or water. Add canned oysters, tuna, clams, crabmeat, hamburger, ham, turkey, chicken, and a spoonful of bacon fat. Heat thoroughly, and top with chopped parsley and freshly-ground black pepper. Sprinkle with malt vinegar. OR make vegetable soup, and eat meat or fish (like marinated herring, canned mackerel, or smoked oysters) separately.

GYROS SALAD: Cucumber, tomato, onions, and olives are all high in salicylates, so use mainly Romaine, iceberg, or Boston lettuce, with small amounts of tomato, onions, and olives, and chunks of feta cheese. Add brined Greek olives from a Greek grocer or olive bar, which still have their lipase, the fat-digesting enzyme. Frozen gyros meat is also available at a Greek grocer. Warm the meat in a pan on medium, then assemble salad. Serve tzatziki sauce for dressing: Peel one 10-ounce cucumber and grate, discarding large seeds. Mix together grated cucumber, ¾ cup Greek yogurt, ¾ cup sour cream, 2 tablespoons extra virgin olive oil, 2 tablespoons fresh chopped dill, 1 tablespoon lemon juice, and 1 clove garlic, minced. This recipe makes a lot, but it goes well with as a raw veggie dip, with roasted vegetables, or with pork chops.

2. Salad

-MILD LETTUCE W/VEGGIES: Some combination of romaine, iceberg, or Boston lettuce, celery, daikon, garlic, onion, beet, grated carrot, chopped pea sprouts, hard-boiled egg, half an avocado. Dressing: malt vinegar mixed with bacon fat or yogurt, or Keto mayo (no modern oil). Can add chopped pastrami, tuna, salmon, shrimp, chicken-roasted or chicken salad.

3.Cheese: as the French say: to “close up the stomach,” especially with decaf coffee or a keto tea. Cheese is high in fat with its ketone butyric acid and medium chain triglycerides (MCT are highest in goat dairy). Plus, cheese contains probiotic bacteria. So many delicious cheeses are available that it's easy to get special ones so that you feel like it's a dessert, so it's time to stop eating! If needed, have some peeled golden delicious apple, pear, or prunes. Or ½ cup yogurt with berries or kiwi. You can also sweeten yogurt with calming amino acids serine, glycine, and threonine, or with ¹⁴⁹stevia.



ON THE IMPORTANCE OF BROTH:

"Soup does seven things. It takes away hunger and thirst, fills the stomach, cleans the teeth, makes you sleep, makes you slim, and puts color in your cheeks."
(Italian proverb)

DINNER ENTREES-CHICKEN

CHICKEN SOUP: A purchased broth can be made into gelatinous broth can be made by adding up to ½ tablespoon of unflavored gelatin per cup. Stir into cold broth, then heat. This greatly increases the collagen. OR make broth:

- 4 pounds chicken thighs and 2 pounds necks, wings, feet, gizzards, heart, or rotisserie chicken carcass
- 2 tablespoons malt vinegar
- Vegetables: 1 small celery root, 4 medium carrots, 1 small rutabaga, 1 turnip, and 1 parsnip, or any combination
- 2 peeled yellow onions
- 2 bay leaves
- Large sprigs of fresh rosemary, sage, and/or dill, or 1 Tb chicken soup seasoning
- 1 tsp sea salt, 10 peppercorns
- fresh parsley-handful

Place chicken and onion into a stockpot (8 quart minimum). Cover with cold water and vinegar. Let it stand for 30-60 minutes. Peel and roughly chop vegetables. Uncovered, boil chicken for 20 minutes. Skim off scum. Continue to cook at 180 degrees F (just under a simmer) for 4 hours total cooking time. After ½ hour cooking time, or when thighs reach 165 degrees F, remove them, cool slightly, and take off meat. Return bones and skin to the soup. After 2 hours cooking time, add vegetables. Ten minutes before broth is done, add parsley. Remove vegetables. Strain stock into canning jars. Cover and refrigerate, retaining fat on (this preserves broth for a month). Extra cooled broth can be frozen in freezer containers. For a quick soup: heat up 6 cups broth, 3 cups cut up chicken, and 2 cups vegetables from cooking the soup, or any combination of leftover vegetables. Garnish with chopped parsley and grated cheese.

ONION SOUP

- 4 tablespoons unsalted butter
- 3 pounds yellow onions, peeled and thinly sliced
- $\frac{3}{4}$ teaspoon salt, more to taste
- 8 cups chicken stock
- $\frac{1}{2}$ cup dry white wine
- 1 tablespoon dry sherry (optional)
- 1 tablespoon all-purpose flour
- $\frac{1}{2}$ teaspoon black pepper, more to taste
- 1- $\frac{1}{2}$ cups grated Gruyère cheese

Melt butter in a heavy Dutch oven over medium heat. Add onions and $\frac{1}{2}$ teaspoon salt, stir and cover, letting onions soften for 5 minutes. Remove lid and let onions caramelize until golden brown over medium heat, stirring occasionally. Adjust heat if onions are browning too quickly. The caramelization process may take 45 to 60 minutes. Meanwhile, warm broth in a saucepan over low heat. Once onions are caramelized, add wine and sherry to the pot and allow mixture to come to boil. Stir in flour and let thicken for a minute or two. Slowly add warm broth, $\frac{1}{4}$ teaspoon salt and the pepper to the onion mixture and boil uncovered for 10 minutes. Add more salt and pepper to taste. Add grated cheese to individual servings.

This soup forms the basis of quick and easy leftovers soups.

KETO MISO SOUP

- 4 cups chicken broth
- 2 cups water
- 1 tsp. peeled and grated fresh ginger
- 1 boneless, skinless whole chicken breast, about 1/2 lb., cut into thin strips
- 2 cups packed romaine leaves
- 6 tablespoons wakame seaweed
- 2 green onions, white and light green portions, thinly sliced
- 1/4 cup yellow miso

In a large saucepan over medium-high heat, whisk together the stock, water, and ginger. Bring to a simmer, then reduce the heat to medium. Add the chicken strips and cook until the chicken is just opaque throughout, about 2 minutes. Add the romaine and cook until slightly softened, about 1 minute. Add the green onions and cook for 1 minute more. Turn off heat. Add miso and stir until dissolved. Taste and adjust the seasonings. Using tongs, divide the noodles evenly among warmed bowls and then ladle in the soup. (Serves 4 to 6)

CABBAGE AND SMOKED SAUSAGE SOUP

- 1 Tbs. chicken or bacon fat
- 1 onion, chopped
- 1 pound smoked sausage, sliced
- 3 cups chicken broth
- 1 head green cabbage, cored and loosely chopped
- 3 carrots, sliced
- 3 stalks celery, sliced
- 2 tablespoons uncooked long grain white rice
- 1 (8 ounce) can tomato sauce
- 1 (28 ounce) can crushed tomatoes
- Salt to taste
- 1 bay leaf
- ½ tsp. crushed dried thyme

Heat fat in a large pot over medium heat, and cook the onion until lightly browned. Place sausage in the pot, and pour in broth. Mix in cabbage, carrots, celery, rice, beans, tomato sauce, and crushed tomatoes. Season with salt, bay leaf, and thyme. Bring to a boil. Reduce heat to low, and cook at least 1 hour, until vegetables are tender and rice is cooked.

STRACCIATELLA

- 4 cups chicken broth
- 3 eggs
- 2 Tablespoons finely grated, lightly packed Parmesan cheese
- 2 Tablespoons soft breadcrumbs
- A handful of romaine, sliced into 1/2-inch ribbons (or use any tender green)

Place stock in a 2-quart saucepan and bring to a simmer. In a medium bowl whisk together the eggs, Parmesan cheese, breadcrumbs, and black pepper. Once the stock is simmering, stir in the greens, cook until nearly done. Pour/scrape the cheese egg mixture into the simmering stock. After a few seconds, stir the egg mixture into the soup. Cook at a gentle simmer until egg is set. Add more sea salt, if desired.

BLACK BEAN AND PORK TENDERLOIN SLOW COOKER CHILI

- 1-1/2 pound pork roast, cut into 2 inch strips
- 1 onion, coarsely chopped
- 1 red bell pepper, coarsely chopped
- 1 (15 ounce) can black beans, rinsed well
- 2 cups canned tomatoes
- 1 cup chicken broth
- 1 tsp. oregano
- 1 tsp. cumin
- 2 teaspoons chili powder

Combine all ingredients in a slow cooker. Set to Low and cook for 8 to 10 hours. Break up pieces of cooked pork to thicken.

KEN'S EASY CHICKEN AND CARROTS

- 3 chicken thighs
- 1 tablespoon paprika
- salt and pepper
- 3 cups carrot coins
- 2 teaspoons marjoram

If you have time, brine thighs in salty water for at least 15 minutes; otherwise, omit this step. Make sure to thoroughly pat them dry; otherwise, they will not develop golden and crispy skin. Preheat oven to 375 F. Season the chicken and place in 9x13 pan. Bake for 15 minutes. Flip chicken. Add carrots, stirring to distribute chicken fat. Bake 10 more minutes. Flip chicken and stir carrots. Bake 5-10 minutes more, until chicken is at 165 F. Cover carrots with aluminum foil and continue baking until tender and slightly browned.

VARIATION: Substitute 3 cups shredded cabbage for carrots, and 1 tablespoon caraway seeds and 1 teaspoon dried dill weed for marjoram. Add a dollop of sour cream to each serving of cabbage.

BROCCOLI AND “PASTA” TIMBALE

- 1 ½ lb broccoli
- 7 Tb butter or chicken fat
- 2 Tb olive oil
- 1 shallot, minced
- 1 cup chopped, cooked chicken
- 4 Tb flour
- 1 ½ cups chicken broth
- ½ cup heavy cream
- ¼ tsp nutmeg
- 1 Tb lemon juice
- Dash of tabasco sauce
- 1 lb zucchini, made into zoodles
- 1 cup ricotta cheese
- ½ cup freshly grated Parmesan cheese
- ½ cup cubed Fontina cheese
- Chopped fresh parsley

Cut the broccoli tops into flowerets. Cut off the top 3 inches of the stem and peel. Cut into strips about 1 ½ inches long. Set aside. Heat 2 Tb of the fat with the olive oil in a large skillet over medium-low heat. Add the shallots; cook 3 minutes. Add the broccoli flowerets, stems and ham. Cook, covered, until the broccoli is tender, about 10 minutes. Raise the heat and cook, uncovered, until all moisture has evaporated. Set aside. Melt the remaining fat in a medium skillet over low heat. Beat in the flour. Cook, stirring constantly, 2 minutes. Beat in the chicken stock all at once. Beat in the cream. Heat to boiling; reduce the heat. Simmer until very thick. Add nutmeg, lemon juice and hot pepper sauce. Set aside. Put zoodles in a large bowl. Add the sauce, ricotta cheese and Parmesan cheese. Mix thoroughly. Preheat the oven to 400 degrees. Butter a 2-quart soufflé dish. Place 1/3 of the zoodle mixture in the dish. Add half the broccoli mixture and half the Fontina cheese, pressing down lightly. Add another 1/3 of the zoodles, then the remaining broccoli and Fontina cheese. Finish with the remaining zoodles. Place in the oven and bake 25 minutes. Let stand for 8 minutes, then run a knife around the edges of the dish. Cover with a serving platter. Invert to unmold. Sprinkle with parsley. (Serves 4)

HUNGARIAN CHICKEN PAPRIKASH

- ¼ cup unbleached flour
- 4 Tbs. sweet Hungarian paprika
- 1 tsp. salt
- ¼ tsp. hot paprika
- 1 3-pound chicken, cut into pieces (reserve wings for another use)
- 5 Tbs. schmaltz
- 1-1/2 white onions, peeled and thinly sliced length-wise
- 2 cloves garlic, minced
- 2 cups chicken broth
- 1 bay leaf
- 1 cup sour cream

Mix flour, 3 Tbs. paprika, salt, and hot paprika in a shallow bowl. Dredge each chicken piece lightly in flour mixture. Reserve the flour mixture. Add the schmaltz to a heavy pot and bring to medium-high heat. Brown chicken pieces 5 minutes on each side. Remove chicken. Put onions, garlic, and remaining 1 Tbs. paprika in pot. Sauté over medium heat until onion is tender, about 4 minutes. Lower heat to a simmer. Add the chicken pieces, chicken broth, and bay leaf. Cover tightly and allow to simmer about 30 minutes over very low heat. Mix ½ cup of the sour cream thoroughly with the reserved flour. Add a ladleful of the hot broth to the sour cream and whisk until smooth. Stir the mixture into the pot and simmer for 5 minutes. Remove from the heat. Stir in the remaining ½ cup sour cream. Serve over spaghetti squash.

CHICKEN POT PIE

- 2 medium turnips, peeled and cut into ½ inch cubes
- 1 cup diced celery or celery root
- 2 cups shredded cooked chicken thighs
- 1 10.8 ounce package frozen peas and mushrooms
- 1 14 ounce can mushroom soup
- 1 cup chicken broth
- 1 cup diced celery
- ¼ cup diced onion
- 4 tablespoons chopped parsley, more for garnish
- 1 teaspoon lemon zest
- Freshly ground black pepper
- 1 10 ounce package frozen cauliflower rice
- 1/3 cup grated parmesan
- ¼ cup panko bread crumbs
- 2 tablespoons melted butter

Preheat oven to 425 degrees F. Boil turnips and celery until tender, 5-8 minutes. Drain and combine with chicken, frozen peas & mushrooms, soup, broth, celery, onion, parsley, thyme, lemon zest, and pepper in a large bowl. Transfer to a 9-inch deep-dish pie pan. For topping: Combine cauliflower, Parmesan, breadcrumbs, and butter in a medium bowl. Sprinkle the topping over the chicken mixture. Bake the potpie until the filling is heated through and the topping is golden, about 40 minutes. Let stand for 10 minutes before serving. Sprinkle with additional parsley, if desired.

CHICKEN A LA KING OVER CAULIFLOWER BUNS

- 1/2 c. sliced mushrooms
- 1 c. cubed chicken (cooked)
- 1 egg yolk, lightly beaten
- 1 1/2 c. **Veloute Sauce** (next slide)
- 2 tbsp. butter
- 4 tbsp. canned pimiento strips, drained
- 2 tbsp. dry sherry
- Cooked pumpkin

Sauté mushrooms in butter. Mix into velouté sauce together with chicken and pimientos in a saucepan over low heat. When hot, add 1/4 of this mixture to the egg yolk, beating constantly. Return the yolk-sauce mixture to the saucepan. Add sherry and salt. Blend well. Serve over cauliflower buns, split.

CAROLINA-STYLE VINEGAR BARBEQUE CHICKEN

- 2 cups chicken broth
- 1 cup malt vinegar
- 1 teaspoon crushed red pepper flakes
- 3/4 teaspoon salt
- 1-1/2 pounds chicken thighs

In a small bowl, mix the first six ingredients. Place chicken in a 3-qt. slow cooker; add vinegar mixture. Cook, covered, on low 4-5 hours or until chicken is tender. Remove chicken; cool slightly. Reserve 1 cup cooking juices; discard remaining juices. Remove meat from bones, shred chicken with two forks. Return meat and reserved cooking juices to slow cooker; heat through. Serve chicken mixture on cauliflower buns. Yield: 6 servings.

BASIC VELOUTÉ SAUCE

- 4 tablespoons bacon fat or butter
- 2 tablespoons flour
- 2 cups chicken broth
- Salt and pepper to taste

Melt fat, add flour, and cook briefly. Add broth, stirring with a whisk, until sauce is thickened. Makes 2-1/4 cups.

WINE SAUCE: Replace ¼ cup of broth with white wine

DILL SAUCE: Add 3 tablespoons chopped fresh dill

ALLEMANDE SAUCE-THICKENED WITH EGG YOLK

- 3 Tablespoons butter or schmaltz
- 1 Tablespoon flour
- 2 cups chicken stock
- 3 egg yolks

In a saucepan, over medium heat, melt the butter. Stir in the flour and cook for 2 minutes. Whisk in the stock, 1/2 cup at a time, until smooth. Season with salt and pepper. Bring the liquid to a boil and reduce the heat to low. Simmer for about 45 minutes, whisking occasionally, until it is reduced by half. Remove from heat and cool slightly. Add 3 egg yolks, one at a time, and quickly whisk each one until incorporated. Use immediately, as it cannot be reheated. Serve on fish or chicken.

DINNER ENTREES-BEEF

SLOW COOKER BEEF, CARROT, AND TURNIP STEW

- 2 cups carrots, cut into 2-inch pieces
- 4 turnips, cut into large pieces
- 1 small rutabaga, cut into small pieces
- 2 tablespoon dark miso
- 4 cups beef broth
- ½ cup red wine
- 1 teaspoon thyme
- 1 tablespoon dried parsley
- 1 teaspoon paprika
- 2 pounds chuck roast, well-marbled, or stew meat
- 2 tablespoons beef tallow or bacon fat
- 2-3 cloves garlic, minced
- ¼ cup malt vinegar



Place vegetables, miso, broth, thyme, parsley, oregano and bay leaves into slow cooker. Salt and pepper meat. Heat fat in a cast iron pan over medium heat. Sauté garlic 30 seconds. Brown beef, cut into cubes, toss with flour. Mix meat with vegetables, deglaze pan with vinegar, pour into slow cooker. Cook on high for 5 hours. Serve with chopped parsley.

ZUCCHINI LASAGNE

- 14 oz. zucchini
- 2 tbsp bacon fat or beef tallow
- 1 (4 oz.) yellow onion, finely chopped
- 2 garlic cloves, finely chopped
- 1½ lbs ground beef (Angus or grass-finished)
- 1 tbsp dried basil, 1 tbsp dried oregano
- 1 tsp salt, ¼ tsp black pepper
- 4 tbsp tomato paste and 3 tbsp water, or 7 tbsp canned tomato, chopped
- 1½ cups heavy whipping cream
- 2 cups (8 oz.) shredded cheese, divided
- ¼ cup chopped deli olives
- 1 garlic clove, minced

Slice zucchini very thinly lengthwise with a mandoline or sharp knife. Place in colander and sprinkle with salt. Let sit for 15 minutes, then squeeze out liquid with paper towels. For meat sauce: fry onion and garlic in fat over medium heat until soft. Add meat and seasonings. Stir together until slightly browned. Stir in tomato paste and water, and simmer on medium-low for 5-10 minutes. Put the cream, half of the shredded cheese, olives, and the garlic to a medium-sized saucepan. Bring to a simmer over medium-high heat, and once bubbling, reduce the temperature to medium-low. Simmer for about 5 minutes while stirring continuously or until the sauce has thickened. Salt and pepper to taste. Assemble the lasagna by spreading about 1/3 of the meat sauce on the bottom of an 8x10 baking dish. Cover with some of the cheese sauce and then cover with zucchini slices on top, in a single layer. Repeat the layers and finish by sprinkling the remaining cheese on top. Bake for 18-20 minutes. Let it rest for 15 minutes before serving.



WINTER BORSCHT

- Beef shank-1 inch thick
- Small piece of oxtail for collagen)
- 3 quarts water
- 1 bay leaf
- 1 onion chopped
- 1 large rutabaga
- 1 celery root, chopped, to make ½ cup
- 2 large beets
- 3 cups chopped cabbage
- ¼ cup malt vinegar
- 1 tablespoon caraway seeds
- 1 cup sour cream mixed with 2 T. horseradish
- 2 tablespoons chopped fresh dill



Brown beef shank in a small amount of fat, in a large soup pot, about 3 minutes per side. Add oxtail, water, bay leaf, and onion, and simmer for 4 hours. After 3 hours, put whole beets in while simmering and cook until soft, about 45 minutes. Also, put rutabaga and celery in the pot. After 4 hours total, remove shank and oxtail, cut shank into bite sized pieces, and return to soup. Save oxtail meat if it tastes good and isn't too tough, and freeze bones to use in other soup. Remove beets and place in ice water for a few minutes. Rub skins off, grate, and set aside. Add cabbage to the pot and cook for 30 minutes, then add beets. When all is heated, add vinegar, salt, and pepper. Serve garnished with sour cream and dill. Omit beets if you don't like them-it's still a very flavorful and nourishing soup without beets.

BEEF BRISKET WITH ONION GRAVY

- 1 5-to-6-pound grass-fed beef brisket
- 3 tablespoons bacon fat
- Sea salt and freshly ground black pepper
- 3 large yellow onions, peeled and cut into ½-inch pieces
- 2-3 large garlic cloves, minced
- 1 teaspoon paprika
- 2 cups water and 1 cup red wine (or use all water)



Preheat oven to 375 F. In a dutch oven or other heavy baking pan large enough to hold brisket, heat 1 tablespoon oil in oven 10 minutes. Pat brisket dry and season well with salt (I used about 4 teaspoons) and pepper on the top and bottom. Roast brisket in pan, uncovered, 30 minutes. While brisket is roasting, in a large heavy skillet cook onions in remaining 2 tablespoons fat over moderately high heat, stirring, until softened and beginning to turn golden. Reduce heat to moderate and cook onions, stirring occasionally and reducing heat if necessary, until deep golden, about 20 minutes more. Stir in garlic, paprika, salt, and pepper and cook 1 minute. Stir in water and wine and bring to a boil. Spoon onion mixture over brisket and bake, tightly covered, 3 ½ hours, or until brisket is at 200 F. (Check pan every hour and if necessary, add more water. It could take 5 hours cooking) Remove brisket from oven and let cool in onion mixture 1 hour. Remove brisket from pan, scraping onion mixture back into pan, and chill, wrapped in foil, overnight. Spoon onion mixture into a 1-quart measure and chill, covered, overnight. Preheat oven to 350 degrees. Transfer onion mixture to a blender. Add enough water to the blender to measure 3 cups total. Blend until smooth. Slice the brisket against the grain as thick or thin as you prefer. In a large ovenproof skillet heat gravy until hot, add brisket and heat in oven, or stovetop, 30 minutes. Serve with heated sauerkraut.

STUFFED BELL PEPPERS

- 3 large red bell peppers
- 3 Tbsp beef tallow
- 1 cup finely chopped celery
- 1 pound ground beef (Angus or grass-finished) or pork sausage
- ½ onion, diced
- 1 garlic clove, minced
- 1 tsp dried oregano
- 1 (8-oz) can keto-friendly (no-sugar) tomato sauce
- 1½ tsp sea salt
- 1/2 tsp freshly ground pepper
- 1 (10-oz) bag frozen cauliflower rice, thawed
- 1/2 cup grated Parmesan cheese, divided
- 3/4 cup (3-oz) shredded provolone cheese

Heat oven to 400°F. Cut peppers in half lengthwise and remove the core, seeds, and ribs. Arrange peppers, cut-side up, in a 9-by-13-inch baking dish or dish in which they fit snugly. In a large (12-inch) skillet, heat olive oil over medium heat. Add onion, garlic, and celery and cook, stirring occasionally, until tender, 3 to 4 minutes. Add meat and cook, breaking up the meat with a spoon, until browned, 5 to 6 minutes. Add the oregano. Stir for 1 minute. Add the tomato sauce, salt, and pepper and bring to a boil. Remove from the heat and stir in the frozen cauliflower rice and half of the Parmesan cheese. Stir for 1 minute. Fill each pepper half with the mixture. Pour ¼ cup water into the bottom of the baking dish, wrap the dish tightly with foil, and bake until a knife easily pierces a pepper, 30 to 35 minutes. Remove foil, spoon juices on the peppers, then sprinkle the cheese onto the peppers. Bake until the cheese is melted and beginning to brown, 10 to 15 minutes.



ITALIAN BEEF AND CABBAGE

- 1½ lbs green cabbage
- 5 oz. butter, divided
- 1 1/2 lbs ground beef
- 1 tbsp white wine vinegar
- 1 tsp salt
- ¼ tsp pepper
- ½ cup canned tomatoes (seeded)
- ¼ cup chopped deli olives
- 2 garlic cloves, minced
- 4 oz. leeks, thinly sliced
- ½ cup fresh basil, chopped

- 1 cup keto mayonnaise or sour cream, for serving

Shred the green cabbage finely with a sharp knife or in a food processor. In a large frying pan, over medium heat, melt half of the butter. Add the cabbage and fry for about 10 minutes, or until just softened. Add vinegar, salt, and pepper. Stir and fry for 2-3 minutes, or until well incorporated. Transfer the sauteed cabbage to a large bowl. Heat the rest of the butter in the pan. Add the garlic and leeks, and sauté for a minute. Add meat, and continue frying until cooked through. Sauté until most of the liquid has evaporated. Add tomatoes and chopped olives, and mix well. Lower the heat a little and add reserved cabbage and fresh basil. Stir until cooked through. Adjust seasoning and serve with a dollop of sour cream or mayonnaise. About 6 servings



BEEF LIVER, BACON, AND ONIONS

- 1 pound beef liver,
- 6 pieces of bacon
- 3 medium onions, sliced
- $\frac{1}{4}$ cup white flour
- Salt and pepper

Remove membrane along the sides of the liver. If the taste of liver is too strong for you, it helps to soak it for 8 hours in milk, then pat with a paper towel. To make bacon: place bacon in a cold skillet. Turn heat to medium and flip bacon frequently, until crisp (about 20 minutes). Remove bacon and crumble. Sautee onion in fat until very soft, about 15 minutes.

Meanwhile, mix flour and seasonings on a plate, and dip liver in, both sides. Remove onions to a bowl. Turn burner to medium heat, add more fat to the pan if necessary, and fry liver just until browned. Remove to a plate. Put onions in the pan, then liver, and top with bacon. Simmer on low for 15 minutes. Sprinkle with malt vinegar, and serve.



DINNER ENTREES-PORK

THREE KETO PIZZAS

- 1 eggplant or 2-3 zucchinis
- 1 egg-beaten
- 1 large tomato-cut very thinly
- 4 tablespoons finely grated Parmigiano Reggiano or Pecorino Romano
- 3 tsp. fresh oregano, minced, or 1 tsp. dry
- 1/2 cup shredded (goat milk) mozzarella
- Other toppings as desired (onion, mushrooms, pepper, greens, deli olives)

½ pound Italian sausage-purchased or home-made:

- ½ pound ground pork
- 1 teaspoon sea salt
- 1 tablespoon fennel seed
- 1 teaspoon minced garlic, or garlic flavored Italian seasoning
- 1/3 cup malt vinegar

Mix sausage ingredients and marinate 8 hours in the refrigerator. 7 grams carbs per serving (1/2 pizza) Preheat oven to 425 degrees F. Peel eggplant or zucchini, slice ¼ inch thick. Cut enough slices to fill a 9 x 12 pan. Lightly salt and place in colander for at least 30 minutes. Squeeze. Arrange slices on pan and brush with egg. Bake for 15 minutes. Top with Parmigiano Reggiano, tomato, oregano, and other toppings. Scatter small pieces of uncooked pork sausage on top, sprinkle with mozzarella. Bake for 10-15 minutes, or until sausage is cooked and cheese begins to brown. Can also be made individually.

CAULIFLOWER CRUST

Put parchment paper on a cookie sheet. Prepare raw cauliflower rice from 1.5 pounds cauliflower (slide 166). Cook in large skillet over medium heat, stirring constantly, for 10 minutes, until tender and dry. Cool slightly. Put into a large bowl and stir in ½ cup mozzarella cheese, 1 beaten egg, and 1 teaspoon Italian seasoning. Use your hands to thoroughly mix it. Form a 9-inch circle on the parchment paper, and bake at 400 degrees F for 25 minutes. Add toppings and bake as above.

PORK CHOPS

Pork needs to be marinated before cooking.

- 4 bone-in pork chops, approx. 8 ounces each

Marinade for 8-24 hours in:

- 1/2 cup malt vinegar (for the easiest marinade, use just vinegar)
- ¼ cup macadamia nut oil
- 2 garlic cloves, chopped
- ½ teaspoon dry mustard
- 1 teaspoon salt
- ¼ teaspoon coriander

Gravy

Heat a heavy skillet like cast iron or stainless steel over medium-high heat. Add bacon fat to the hot skillet. Add the pork chops to the pan, making sure there is an inch between each, so they sear and don't steam from overcrowding. Cook until well browned but still rosy near the bone, 4 to 5 minutes per side for bone-in pork chops that are 8 ounces each. Transfer to a plate and let rest 5 minutes.

Make gravy from leftover fat. Put skillet scrapings into a new pan, add bacon fat, if needed, to make a tablespoon. Add 1 tablespoon flour and cook for a minute. Heat a cup of chicken broth and whisk into flour. Simmer for a few minutes, until thickened.



OTHER ENTREES-SEAFOOD

FINNISH FISH BAKED IN MILK

- 1-1/2 pounds firm fish, like haddock or cod
- Salt and pepper
- 3 tablespoons dry bread crumbs
- ½ cup grated Swiss cheese
- ½ cup heavy cream
- 2 tablespoons chopped parsley

Preheat oven to 350 F. Place fish slices on a buttered baking dish. Brush with melted butter and pour cream or milk over the fish. Sprinkle with salt, pepper, bread crumbs, and cheese. Bake for 30 minutes, or until cheese is melted and browned, and fish flakes easily. Sprinkle with parsley.



SALMON CUSTARD

- 2 cups peeled and grated zucchini
- 3 large eggs
- 1 cup frozen peas or frozen broccoli florets
- 1/2 cup onion, chopped
- 1 teaspoon dill
- 1 clove garlic
- 1 tablespoon Worcestershire sauce
- 1/2 teaspoon black pepper
- 1 teaspoon crushed red pepper flakes
- One 14-3/4 ounce can salmon, with liquid (contains nutrients)
- 6 ounces shredded cheddar cheese or crumbled feta cheese
- 1 can cream of mushroom soup

Lightly salt zucchini and let drain for 15 minutes. Preheat oven to 350° F. Spread bacon fat on the inside of a 9x13 casserole dish. In a medium mixing bowl, whisk the eggs. Stir in the vegetables, onion, dill, garlic, and Worcestershire sauce. Add the black pepper, red pepper flakes, salmon, and cheese. Mix well. Pour the mixture into the casserole dish. Bake uncovered for 45 minutes, until set. Take the casserole out of the oven and let it rest for about 5 minutes. Cut into 6 servings, and ladle some heated mushroom soup over each serving. Garnish with parsley.

Other canned fish can be substituted, like light tuna, crab, and oysters.

TUNA SPAGHETTI SQUASH CASSEROLE

- 1 large spaghetti squash, cooked and shredded
- 3 small sized cans of tuna (wild caught variety)
- 1 can diced green chilis
- ½ cup approved keto mayo
- 2 Tbsp prepared mustard
- 1-2 cups frozen peas (thawed)
- 1 yellow onion, diced
- 1 garlic clove, minced
- 1-1½ cup sliced mushrooms
- 1 inch of fresh ginger, grated
- ½ cup chicken broth
- ½ cup sour cream
- 1-2 Tbsp bacon fat, for sautéing
- ½ tsp salt
- ¼ tsp pepper
- ½ tsp paprika
- ¼ tsp red pepper flakes
- 1-2 cups grated parmesan cheese
- chopped chives, garnish
-

Preheat oven to 400 degrees. Cook the spaghetti squash. Carefully slice squash in half lengthwise. Season with salt and pepper. Place in pan, face side down. Bake for about 40 minutes. Check doneness by poking with a fork. Remove from oven and allow to cool. Using a fork, remove the squash from the shells with long strokes to create strands. In a large mixing bowl, combine the tuna, mayo, mustard, green chilis, half of the salt and pepper. Mix and set aside.

Heat the bacon fat in a skillet over medium-high heat. Add in the onions, and sauté for 2-3 minutes. Add the mushrooms and garlic and sauté for an additional 2-3 minutes. Add the broth and spices to the skillet. Whisk together with the onions, garlic, and mushrooms. Allow this to cook 5 minutes. Mix in sour cream. Add sauce in with the tuna mixture. Stir to combine. Add spaghetti squash to the prepared casserole pan. Layer the peas over the top of the squash. Pour the tuna and sauce mixture over the squash and peas. Spread evenly over entire pan. Lastly, spread your cheese over the top and sprinkle with a little extra paprika. Bake for approximately 25-30 minutes or when casserole is bubbly and warmed through. Allow to sit briefly before cutting.

SHRIMP SCAMPI OVER ZOODLES

- ½ pound frozen shrimp, medium-thawed for 8 hours, peeled and deveined
- 4 tablespoons butter
- 2 cloves garlic, minced
- 2 teaspoons Italian seasoning
- 2 pinches cayenne
- 1-3/4 pound zucchini-made into zoodles
- Black pepper and salt
- ½ lemon
- 1/3 cup grated Parmesan cheese

Melt butter in large skillet on medium heat. Sauté garlic for 2 minutes. Rinse and towel-dry shrimp. Sauté 1 minute on each side. Add zoodles, salt and pepper, and stir to coat with butter. Cover and let cook for 5 minutes, stirring occasionally. Ladle into 2 bowls. Squeeze lemon over shrimp, and toss with Parmesan.



SHRIMP WITH CREAMY SPAGHETTI SQUASH

- 1 medium spaghetti squash
- 1 tbsp. olive oil
- ½ tsp. sea salt
- ¼ tsp. pepper

Cut squash lengthwise, scoop out seeds. Brush with oil, season with salt and pepper, and put in pan cut side down. Bake at 400 1 hour and cool. Use fork to draw out strands.

- 2 tbsp. butter
- 12 oz. frozen shrimp, thawed, peeled and deveined (EZY-peel are convenient)
- ¼ tsp. sea salt or to taste
- ¼ tsp. pepper or to taste
- 3 garlic cloves, minced
- ½ cup veggie broth
- ½ cup heavy cream
- ½ cup grated Parmesan
- 1 tbsp. chopped parsley, to garnish

Heat a large skillet over medium-high heat. Add the butter, shrimp, salt, and pepper, and cook for about 2-3 minutes, or until the shrimp reaches the desired doneness. Remove the shrimp from the skillet and set it aside. Reduce the heat to medium. To the same skillet, add the minced garlic and cook for 1 minute. Then add the veggie broth and cream, and bring it to a gentle simmer. Let it simmer for 2-3 minutes before stirring in the Parmesan cheese. Add the spaghetti squash and cover it nicely with the sauce. Let it heat fully. Lastly, add the reserved shrimp on top. Serve with parsley.

NOTE: Spaghetti squash topped with leftover hamburgers, cut into pieces, and canned pasta sauce, is a quick dinner.



SHRIMP AND CAULIFLOWER “GRITS”

- 2 tablespoons butter, plus more for baking dish
1 bunch scallions, white and light-green part only, chopped
1/2 large red bell pepper, chopped
1 jalapeño pepper, seeded, finely chopped (optional)
2 cloves garlic, minced
1 can (10-ounce) diced tomatoes with green chiles, drained
1 cup chicken broth
1/3 cup quick-cooking grits (not instant)
1/2 cup cauliflower rice, uncooked
salt and freshly ground black pepper, to taste
12 ounces large shrimp (16-20 count),
peeled, deveined, and cooked
2 slices bacon, cooked and crumbled
1 large egg, beaten
1 1/4 cups shredded Gouda cheese



Preheat oven to 375 degrees. Butter an 8 x 8 baking dish or another similar-sized baking dish. Set aside. Heat butter over medium-high heat. Add the scallion, red bell pepper and jalapeño pepper. Reduce heat to medium, cook 4-5 minutes or until beginning to soften. Stir in garlic, diced tomatoes with chiles and chicken broth. Bring to a boil. Slowly stir in grits. Stir continuously until mixture returns to a boil. Reduce heat to low. Simmer, stirring occasionally, for 5-7 minutes or until thickened. Remove from heat and cool slightly. Season to taste with salt and black pepper. Stir in shrimp, bacon, egg and 1 cup cheese. Transfer to prepared baking dish. Sprinkle with remaining cheese. Bake for 30-35 minutes or until heated through and bubbling. Let stand 5-10 minutes before serving.

CLAM SAUCE ON ZOODLES

- 3 medium zucchini made into zoodles with a spiralizer
- 2 6 ½ ounce cans chopped clams, drained (reserve liquid)
- ¼ cup butter
- 8 ounces sliced mushrooms
- 3 garlic cloves, minced
- 1/3 cup dry white wine
- 2 tablespoons fresh basil
- Black pepper
- Freshly grated Parmesan cheese and chopped parsley
- Bacon or chopped deli olives

Place zoodles on paper towels and sprinkle with salt. Let sit for 20 minutes. Melt butter in a large skillet over medium heat and add olives, mushrooms and garlic. Sauté for 5 minutes. Add wine, reserved liquid, and seasonings. Simmer for 5 minutes. Pat zoodles with paper towels. Add clams and zoodles to the mushroom mixture, and heat thoroughly. Serve sprinkled with Parmesan cheese and parsley. Top with bacon or chopped deli olives if desired.



There are many reasons eat oysters regularly. They are the best source of zinc, with the MDA provided in just 4 oysters! Oysters are rich in other key nutrients, especially B12, vitamin D, DHA, selenium, iron, and copper. They're also lower in mercury than wild-caught salmon, plus oysters are perhaps the most sustainable kind of seafood.

OYSTER STEW

- 3 8-ounce cans whole oysters or 4-5 cups fresh shucked oysters
- 1/2 Pound Bacon, Diced
- 1/2 Large Onion
- 2 Cloves Garlic Minced
- 2 Sprigs Fresh rosemary about 4" long, removed from stem and minced
- 1 Tablespoons Old Bay seasoning
- 2 turnips, peeled and chopped coarsely
- 2 Stalks Celery Diced
- 3/4 cup Diced carrots
- 1/4 Cup Dry sherry Extra dry
- 2 Cups Heavy whipping cream
- 1 Cups water
- 3 Tablespoons Butter

Begin to cook bacon in a large skillet over medium to medium high heat. Chop onion and cook with the bacon for about 5 minutes. Meanwhile, prepare turnips, celery and carrots. When onions are soft, add garlic, rosemary, and seasoning. Stir for a minute, then add vegetables, sherry, and oyster liquid, and cook on medium low for 45 minutes. Add oysters, cream, water, and butter, and heat through.

ARTICHOKE OYSTER CASSEROLE

9-10 ounce can artichoke hearts, not marinated

1 cup unsalted butter

3 tablespoons flour

3 tablespoons minced green onions, white and light green parts

7 fresh white mushrooms, stemmed and sliced

2 tablespoons finely chopped parsley

30 canned oysters and liquid

Salt and pepper

3/4 teaspoon cayenne

1 tablespoon Worcestershire sauce

2 teaspoons lemon juice

¾ cup grated cheddar cheese

Drain the artichoke hearts and cut in half. Spread in a 1 ½ to 2 quart casserole dish. Preheat oven to 350 degrees F. Melt all by 2 tablespoons of butter in a large skillet over medium heat. When bubbling, stir in the flour to make a smooth paste. Add the green onions, mushrooms, and parsley, and cook, stirring, for 5 minutes, until they begin to soften. Add oyster liquid. Stir well and add salt (lightly), pepper, cayenne, Worcestershire sauce, and lemon juice. Stir in oysters. Spoon mixture over artichoke hearts, and top with cheese. Bake for about 15 minutes, until the casserole is bubbling hot and the cheese melted.

VEGETABLES

When boiling vegetables, always salt the water. This gives a good taste to the vegetables, much better than salting them afterwards.

BELGIAN BRUSSELS SPROUTS WITH BACON

- 3 slices bacon, chopped
- 1 shallot, chopped
- 1 1/2 pounds Brussels sprouts, trimmed, small sprouts left whole, larger sprouts halved
- Salt and pepper, to your taste
- 1 cup chicken broth

Brown bacon in a medium skillet over medium high heat. Remove bacon to a paper towel lined plate. Add shallots to the pan and saute 1 to 2 minutes. Add Brussels sprouts and stir. Season with salt and pepper. Cook Brussels sprouts 2 to 3 minutes to begin to soften, then add broth. Bring broth to a bubble, cover and reduce heat to medium low. Cook 10 minutes, until tender. Transfer sprouts to a serving dish with a slotted spoon and top with cooked bacon bits.

CAULIFLOWER RICE

Using a large knife, loosely chop a medium cauliflower into rice-size pieces. Or, you can grate it, or pulse cauliflower in a food processor in very small batches. Heat 2 tablespoons of fat (the kind of fat depends on what flavoring you want) in a large frying pan, over medium heat. Sautee ½ diced onion for 5 minutes. Stir in cauliflower, salt and pepper, and sauté for 5-7 minutes, stirring as needed.

LOADED MASHED CAULIFLOWER

- 1 large head of cauliflower, trimmed and cut into florets (roughly 8 cups)
- 3 cloves garlic, peeled
- 1/3 cup full fat coconut milk
- 1 tablespoon butter
- 3 strips bacon, cooked and diced
- 6 oz shredded sharp cheddar cheese (yellow)
- 2 tablespoon chives, plus more for garnish
- 1 teaspoon salt, plus more to taste
- 1/4 teaspoon black pepper

Put the cauliflowererets into a large pot and cover with water. Add garlic and boil 15 minutes, or until tender. Thoroughly drain the cauliflower and garlic. Once all the water is drained, transfer the cauliflower to a food processor. Add in the coconut milk, salt, pepper, and ghee, and then pulse until the cauliflower is smooth and creamy. Give it a taste and add more salt and pepper if you prefer if you prefer. Transfer the mashed cauliflower to a mixing bowl and add 2/3s of the bacon, 4 oz of cheddar cheese, and chives. Stir until well combined and then transfer to a 9 inch oven safe baking dish. Top with the remaining bacon and shredded cheddar cheese. Place in a 350 degree oven for 5-10 minutes until the cheese is melted and gooey. Remove from the oven and garnish with chives before serving.



BEETS IN MUSTARD SAUCE

- 1 ½ lb beets, unpeeled
- 3 Tb butter
- ¼ cup minced shallots
- 1 Tb flour
- ½ cup strong chicken broth
- 3 Tb Dijon mustard
- ¼ cup heavy cream
- Salt and pepper
- Chopped fresh parsley

Place beets in a saucepan and cover with cold unsalted water. Heat slowly to boiling; reduce the heat. Simmer, uncovered, until barely tender, 15-30 minutes. Drain under cold water. Remove the skins and cut into slices. Melt the butter in a large skillet over medium-low heat. Add the shallots; cook 4 minutes. Stir in the flour and cook, stirring constantly, 2 minutes. Whisk in the stock, then add the mustard and heavy cream. Cook until thickened. Add beets to the sauce. Cook, stirring often, until warmed through. Add salt and pepper to taste and garnish with chopped parsley. (Serves 4)

BAKED GOODS

CAULIFLOWER BUNS

- 1 large head cauliflower, cut into florets
- 2 large eggs
- 1/2 c. freshly grated Parmesan
- 1 tbsp. cornstarch
- kosher salt
- Freshly ground black pepper
- 1 tbsp. sesame seeds

1. Preheat oven to 425° and line two baking sheets with parchment paper. On a box grater or in a food processor, grate cauliflower. Heat skillet over medium heat and spoon in cauliflower. Cook until dry, stirring all the while. This will take about 10 minutes. Put into mixing bowl. Add eggs, Parmesan and cornstarch and season with salt and pepper. Mix until combined. Form cauliflower into eight 4" circles on prepared baking sheets. Alternatively, buns can be shaped to fit hot dogs or bratwurst. Sprinkle with sesame seeds and bake until golden, 22 to 25 minutes. Let cool a little before slicing. These buns are also delicious when cooled.



LONG-FERMENTED RYE BREAD

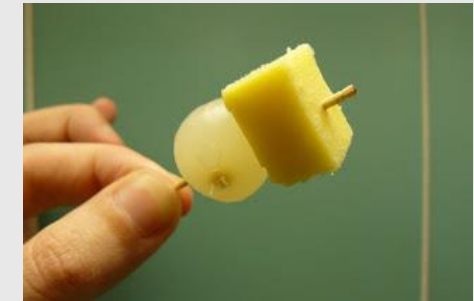
- 3 cups plus 7 ounces warm water-110 degrees F.
 - 1 package yeast
 - 1/2 teaspoon sugar
 - 6 cups light rye flour (not Bob's Red Mill if possible-try to can get locally grown, fresher rye flour.)
 - 2 cups buckwheat flour
 - 4 teaspoons caraway seeds
 - 2 teaspoons fennel seeds
 - 2 teaspoons cream of tartar
 - 1 scant tablespoon salt

Sprinkle yeast on ½ cup of the water, stir in after 2 minutes. Stir in sugar and let sit for 10 minutes, or until very foamy. Combine dry ingredients. Add yeast mixture and remaining water. Mix thoroughly. Place in a buttered bowl, set in a warm place if possible and let rise for 1.5 hours. Punch down. Let rise for another 1.5 hours. Repeat for a total rise of 9 hours. Butter 2 pullman bread pans. Punch down dough and shape into 2 loaves. Sprinkle flour on top, and make a thin cut in the middle of loaves (for even oven-rising). Proof in bread pans for 40 minutes. 20 minutes before bread is ready, preheat oven to 475 degrees F. Bake at 475 degrees for 15 minutes, then turn oven down to 350 degrees for 15-20 minutes more, or until bread reaches 204 degrees (may be longer). Alternatively, bake at 475 degrees until done. Remove from pans, cover with a cloth. After an hour or so, place loaves in a plastic bag. The crust will be hard and the inside will be moist, so wait 12 to 24 hours to cut into loaves for best texture and easy slicing.

Snacks and desserts can be sweetened with sweet, calming amino acids: lysine, serine, glycine, and threonine (tastes vaguely like brown sugar!). These amino acids are often depleted, as they're the active site of enzymes and receptors. Recommended dose is 1/4-1/2 teaspoon of each per day.

- Small serving of fruit, like peeled golden delicious apple, with cheese
- Sausage, pickles, deli olives, cocktail onions or spicy pickled mushrooms w/cheese
- Marinated herring, wild-caught lox w/chevre, shrimp w/hot sauce, sardines
- Deviled eggs w/horseradish or mustard, and bacon
- Frozen avocado pieces (low in amines)
- Small serving of popcorn cooked in bacon fat or coconut oil
- Radishes, celery, scallions with salt/butter, avocado, or smoked fish spread
- Rye bread or crackers with butter, or "hot" jam (like mango) and cheese, or a dip of 1/3 cp. chopped brined olives, 1/3 cp. keto mayo, and 1 teaspoon malt vinegar
- Yogurt or sour cream sweetened with frozen berries, thawed
- Canned pumpkin w/whipping cream or yogurt, fresh ginger
- Ricotta/mascarpone/manouri and cocoa or carob dessert
- Cranberries sweetened with sweet amino acids or stevia, whipping cream
- Lox on cucumber slices, topped with fresh dill
- Daikon slices with avocado or melted cheese
- Jalapeno poppers

KETOSIS SNACKS DESSERTS



Snacking is not recommended on the ketogenic diet, as it tends to interfere with ketosis. So, it's best to fill up at meal times. But, you can save your higher carb foods, like bread, for snacks, as long as you include a ketosis-inducer, like a ketogenic tea.

CHICKEN WINGS

- 32 chicken drumettes/wingettes
- 3 Tbsp plus 2 tsp olive oil, divided
- sea salt & freshly cracked pepper
- 1½ tsp garlic powder, divided
- 4 tsp dried herbs, like basil, thyme, marjoram, oregano, parsley
- 2 Tbsp butter, melted

Preheat oven to 450°F (230°C). Line two baking sheets with foil and place them in the oven while it preheats to get them hot. Pat the chicken wings dry with paper towels and place them in a large mixing bowl. Add 3 tablespoons of the olive oil, the garlic powder, the dried herbs, 1 tsp salt & ¾ tsp pepper. Toss until the wings are evenly coated with the seasoning. Carefully remove the hot pans from the oven, brush each with a teaspoon of the remaining olive oil and evenly distribute wings across both baking sheets. Place in the oven and cook, turning the wings occasionally, until golden brown and crispy, about 30 minutes. Remove the wings from the oven and drizzle the melted butter over them. Toss to coat and return to the oven for 5 minutes more. Transfer the wings to platter, sprinkle with salt and serve.

Dipping sauce: ¾ cup sour cream, 1 tbsp chopped parsley, 1 tbsp lemon juice, salt to taste. Mix thoroughly, let flavors mingle for an hour before serving.





DELAY, DON'T DENY!

The keto diet works best when you have longer times between eating, or “delay, don’t deny”-coined by Gin Stephens. For example, limit eating time to a 12 hour window, which is the minimum for “intermittent fasting”. This is very helpful for staying in ketosis. Finishing your food by 7PM, and then delaying your breakfast until 7AM, works well. Also, avoid eating between meals. This may seem impossible, because w/a high carb diet we tend to snack. But this may be just an adaptation to blood sugar crashes on our modern diet. E.M. Forster made a point of this in “A Passage to India” when he writes that an Indian “had been warned that English people (who would be eating refined carbs and drinking tea) *never stop eating, and that he had better nourish them every two hours*”! But when you’re in ketosis, snacking isn’t necessary, since you no longer have blood sugar crashes.



8. THE WAY FORWARD


From fear and fasting, to destroying toxoplasma with diet

T. Gondii has existed since ancient times, when humans began to eat grains and toxoplasma symptoms of seizures, agitation, mania, hypersexuality, hyperactivity, and hallucinations were labeled as demonic influences. At this time, people fasted from all food (inducing ketosis) to “cast out” demons, so treating these symptoms with a ketogenic diet makes a lot of sense.

People infected with t. gondii can be very active as t. gondii increases stimulating hormones. So, people with t. gondii-related disorders, such as OCD, ADHD, narcissism, anxiety, Asperger's, and epilepsy, include influential activists, writers, inventors, artists, politicians, and military men, as well as violent criminals. Thus, throughout its history, t. gondii has contributed, perhaps in a major way, to societal problems and to the culture itself, as the following history illustrates.

Of course, other factors, such as the lead used to cultivate grain and for dishes, also played an early role in the history of mental illness, as have other infections. In modern times, chemicals like pesticides are linked to these problems, plus many medications cause mood disorders. Trauma is another cause of mental illness. In addition, the change in the primitive diet of mainly meat, animal fat, and some grains, to relying on grains and, in more modern times, sugar and modern oils, had major effects on gut bacteria and, thus, mental health.

Fortunately, the same low carb/high fat diet ("fasting" from carbs) that may treat *t. gondii* also deals with its "co-conspirators", as it destroys other pathogens, detoxes chemicals and heavy metals, and lowers the need for medications.



Although virtually unknown and unacknowledged, *t. gondii* is a force to be reckoned with, as infection with it causes or worsens nearly every brain disorder and many physical problems. So, hopefully the current chapter in its history will be its last, as we take precautions, test for it, and strengthen our immune system with a low carb, high essential fat diet to destroy it, or at least keep it firmly under control-at long last!

THANKS FOR
WATCHING! PLEASE
LIKE, SUBSCRIBE,
AND SHARE.

For more information on "Have your ketosis and eat bread too, with Keto-Light!", please see the powerpoint at the top of this webpage:

<https://tendler5.wixsite.com/highlysinediet>

The information presented herein is intended for educational purposes only. These statements have not been evaluated by the FDA and are not intended to diagnose, cure, treat or prevent disease.



OPERATION RESCUE