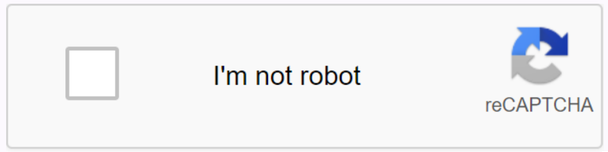

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Properties of acids and bases summary

What is acid-base balance? Your blood needs the right balance of acidic and basic (alkaline) compounds to function properly. This is called acid-base balance. Your kidneys and lungs work to maintain acid-base balance. Even small variations from the normal range can have significant effects on your vital organs. Acid and alkaline levels are measured on a pH scale. An increase in acidity causes pH levels to decrease. An increase in alkaline causes pH levels to increase. When the level of acid in the blood is too high, it is called acidosis. When your blood is too alkaline, it's called alkalose. Respiratory acidosis and alkalose are caused by a problem with the lungs. Metabolic acidosis and alkalose are caused by a problem with the kidneys. Each of these conditions is caused by an underlying disease or disorder. Treatment depends on the cause. When you breathe, your lungs remove excess carbon dioxide from your body. When they can't do that, your blood and other fluids get too acidic. Symptoms of respiratory acidosisSymptoms may include fatigue, shortness of breath, and confusion. Causes of respiratory acidosisThere are several different causes of respiratory acidosis, including: breast deformities or injurieschronic lung and respiratory disordersoveruse of sedativesTypes of respiratory acidosisThere are no noticeable symptoms of chronic respiratory acidosis. This is because your blood slowly becomes acidic and your kidneys are adjusted to compensate and return your blood to a normal pH balance. Acute respiratory acidosis comes on suddenly, leaving the kidneys no time to adjust. Individuals with chronic respiratory acidosis may experience acute respiratory acidosis due to another disease that causes the condition to worsen. Diagnosis of respiratory acidosisA complete physical examination is necessary. Diagnostic tests may include: arterial blood gas test metabolic panelpulmonary function testing breast X-rayTreatment of respiratory acidosisA doctor should be seen immediately for the treatment of acute respiratory acidosis, as this can be a life-threatening condition. The treatment is targeted to the cause. Bronchodilator medication can be given to correct some forms of respiratory obstruction. If your blood oxygen level is too low, you may need oxygen. It may be necessary to be non-invasive ventilation of positive pressure or a breathing machine. For the treatment of chronic respiratory acidosis, the underlying cause must be determined in order for proper treatment to take place. The cause may be from an organ deformity, an infection, or some other form of inflammation. Each cause may require a different treatment ranging from antibiotics to a breathing machine. In both cases, if you smoke, you will be advised to stop. Complications of respiratory acidosisRespiratory acidosis is serious and requires immediate medical attention. complications of untreated respiratory acidosis include failure, organ failure and shock. Prevention of respiratory acidosisYou can take steps to help prevent some of the conditions that lead to respiratory acidosis. Maintain a healthy weight. Take sedatives only under strict physician supervision and never combine them with alcohol. Don't smoke. Metabolic acidosis occurs either when your body produces too much acid, or when your kidneys are unable to remove it properly. Symptoms of metabolic acidosisSymptoms may include rapid breathing, fatigue, and confusion. Causes of metabolic acidosisThere are three main types of metabolic acidosis. Diabetic acidosis, or diabetic ketoacidosis, is a build-up of ketone substances. This is usually due to uncontrolled type 1 diabetes. Hyperchloroemic acidosis is when your body loses too much sodium bicarbonate, often after severe diarrhea. Lactic acidosis is when too much lactic acid builds up. This may be due to: prolonged exerciselack of oxygencertain medications, including salicylates low blood sugar, or hypoglycaemiaalcoholseizuresliver failurecancerkidney disease severe dehydration poisoning from ingestion of too much aspirin, ethylene glycol, and methanol Diagnosis metabolic acidosisDiagnostic tests may include serum electrolytes, urine pH, and arterial blood gases. Once acidosis is confirmed, other tests may be needed to pinpoint the cause. Treatment of metabolic acidosisThe underlying condition of acidosis should be treated. In some cases, sodium bicarbonate is prescribed to return the blood to a normal pH.Complications of metabolic acidosisSevere cases can lead to shock and can be life-threatening. Alkalose is when alkali levels are too high due to decreased carbon dioxide or increased bicarbonate. There are five kinds of alkalose. Symptoms of alkalosisSymptoms of alkalose may include:muscle twitching, hand tremor, muscle spasmsnumbness and tinglingnauseavomitinglightheadednessconfusionCauses and types of alkalosisRespiratoric alkalose are when your blood has low levels of carbon dioxide. This can be caused by a number of factors including: lack of oxygen-high altitudefeverlung diseaseliver diseasesalicylate poisoningOn the way you have alkalose your carbon dioxide levels are low. This causes your body to release more bicarbonate to return your blood pH level back to normal. This is called compensated alkalose. Your blood pH level will test normal, but your kidneys release more bicarbonate, compensating for the lower levels of carbon dioxide. When your blood has too much bicarbonate, it is called metabolic alkalose. This can happen from prolonged vomiting. Prolonged vomiting can also make you lose too much chloride. This is called hypochloremic alkalose. Some diuretic medications can cause you to lose too much potassium. This is called hypocalymic alkaline. Diagnosing alkaloseAlong with a physical exam, diagnostic tests for alkalose may include a panel, blood gas analysis, urinalysis, and urine pH.Treatment for alkalosisNodig medications (such as chloride and potassium) can help correct chemical losses. Further treatment will depend on the cause. Your doctor will need to monitor your vital signs and create a proper plan to correct your pH imbalance. Complications of alkalosisI severe cases, alkalose can lead to cardiac arrhythmias or coma. Alkalose and acidosis can become very serious if they go untreated. Make an appointment with your doctor if you think you have developed symptoms under both conditions. Written by Freydis Hjalmarsdottir, MS October 15, 2018Omega-3 fatty acids are incredibly important. They have many strong health benefits for your body and brain. In fact, few nutrients have been studied as thoroughly as omega-3 fatty acids. Here are 17 health benefits of omega-3 fatty acids that are supported by science. Share on PinterestWe include products that we think are useful to our readers. If you buy via links on this page, we can earn a small commission. Here's our process. Depression is one of the most common mental disorders in the world. Symptoms include sadness, lethargy and a general loss of interest in life (1,2). Anxiety, also a common disorder, is characterized by constant worry and nervousness (3). Interestingly, studies show that people who consume omega-3 fat fat-3s regularly are less likely to be depressed (4,5). What's more, when people with depression or anxiety start taking omega-3 supplements, their symptoms improve (6, 7, 8). There are three types of omega-3 fatty acids: ALA, EPA and DHA. Of the three, the EPA appears to be the best at fighting depression (9). One study even found EPA as effective against depression as a common antidepressant drug (10). Summary Omega-3 supplements can help prevent and treat depression and anxiety. The EPA appears to be the most effective at fighting depression. DHA, a type of omega-3, is an important structural component of the retina of the eye (11). When you do not get enough DHA, vision problems may occur (12, 13). Interestingly, getting enough omega-3 is linked to a reduced risk of macular degeneration, one of the world's leading causes of permanent eye damage and blindness (14, 15). Summary An omega-3 fatty acid called DHA is an important structural component of your eye retina. It can help prevent macular degeneration, which can cause vision loss and blindness. Omega-3 fats are essential for brain growth and development in infants. DHA accounts for 40% of the polyunsaturated fatty acids in the brain and 60% in the retina of the eye (12, 16). Therefore, it is no surprise that infants fed a DHA-enriched formula have better vision than infants fed a formula without it (17). Getting enough omega-3 low-fat people during pregnancy is associated with many benefits for your child, (18, 19, 20): Higher intelligenceBearser communication and social social behavioral problemsConsumption risk for developmental delayCreated risk of ADHD, autism and cerebral palsySummary Getting enough omega-3 in pregnancy and early life is essential for your child's development. Supplementing is linked to higher intelligence and a lower risk of more diseases. Heart attacks and strokes are the world's leading causes of death (21). Decades ago, researchers noted that fish-eating communities had very low rates of these diseases. This was later linked to omega-3 consumption (22,23). Since then, omega-3 fatty acids have been tied to many benefits for heart health (24). These benefits address:Triglycerides: Omega-3s can cause a large reduction in triglycerides, usually in the range of 15-30% (25, 26, 27). Blood pressure: Omega-3 fat fat and help and help and help and 15-000 kroner. Good HDL cholesterol: Omega-3s can raise good HDL cholesterol levels (29, 30, 31). Blood clots: Omega-3 fat clots can keep the platelets from clumps together. This helps prevent the formation of harmful blood clots (32, 33). Plaque: By keeping your arteries smooth and free of damage, omega-3 fat help prevent plaque that can limit and harden your arteries (34, 35). Inflammation: Omega-3 fats the production of some substances released during the body's inflammatory response (36, 37, 38). For some people, omega-3 fat content can also lower bad LDL cholesterol. However, evidence is mixed - some studies find increases in LDL (39, 40). Despite these beneficial effects on heart disease risk factors, there is no convincing evidence that omega-3 supplements can prevent heart attacks or strokes. Many studies find no benefit (41, 42). Summary Omega-3s improve many heart disease risk factors. However, omega-3 supplements do not seem to reduce your risk of heart attack or stroke. Attention deficit hyperactivity disorder (ADHD) is a behavioral disorder characterized by inattention, hyperactivity and impulsivity (43). Several studies note that children with ADHD have lower blood levels of omega-3 fatty acids than their healthy peers (44, 45). What's more, numerous studies note that omega-3 supplements can reduce the symptoms of ADHD. Omega-3 fat helps improve inattention and completion of tasks. They also reduce hyperactivity, impulsivity, restlessness and aggression (46, 47, 48, 49). Recently, researchers observed that fish oil supplements were one of the most promising treatments for ADHD (50). Summary Omega-3 supplements can reduce the symptoms of ADHD in children. They improve attention and reduce hyperactivity, impulsivity and aggression. Metabolic syndrome is a collection of conditions. It includes central obesity - also known as belly fat - as well as high blood pressure, insulin resistance, high triglycerides and low good HDL It's a big public health problem, because it's risk of many other diseases, including heart disease and diabetes (51). Omega-3 fatty acids can improve insulin resistance, inflammation and heart disease risk factors in people with metabolic syndrome (52, 53, 54). Summary Omega-3s can have many benefits for people with metabolic syndrome. They can reduce insulin resistance, fight inflammation and improve several heart disease risk factors. Inflammation is a natural reaction to infections and injuries in the body. Therefore, it is essential for your health. However, inflammation sometimes persists for a long time, even without an infection or injury. This is called chronic - or long-term - inflammation. Long-term inflammation can contribute to almost all chronic Western diseases, including heart disease and cancer (55, 56, 57). In particular, omega-3 fatty acids can reduce the production of molecules and substances associated with inflammation, such as inflammatory eicosanoids and cytokines (58,59). Studies have consistently observed a link between higher omega-3 intake and decreased inflammation (8, 60, 61). Summary Omega-3s can reduce chronic inflammation, which can contribute to heart disease, cancer and various other diseases. In autoimmune diseases, your immune system bugs healthy cells to foreign cells and begins to attack them. Type 1 diabetes is a good example where your immune system attacks the insulin-producing cells in the pancreas. Omega-3 fat and omega fats can fight some of these diseases and can be particularly important in early life. Studies show that getting enough omega-3 fat-3 during your first year of life is associated with a reduced risk of many autoimmune diseases, including type 1 diabetes, autoimmune diabetes and multiple sclerosis (62, 63, 64). Omega-3 fat and omega-fat fat help also helps treat lupus, rheumatoid arthritis, ulcerative colitis, Crohn's disease and psoriasis (65, 66, 67, 68). Summary Omega-3 fatty acids can help fight several autoimmune diseases, including type 1 diabetes, rheumatoid arthritis, ulcerative colitis, Crohn's disease and psoriasis. Low omega-3 levels have been reported in people with psychiatric disorders (69). Studies suggest that omega-3 supplements may reduce the frequency of mood swings and relapses in people with both schizophrenia and bipolar disorder (69, 70, 71). Supplementing with omega-3 fatty acids can also decrease violent behavior (72). Summary People with mental disorders often have low levels of omega-3 fats in the blood. Improving omega-3 status seems to improve symptoms. A decrease in brain function is one of the inevitable consequences of aging. Several studies link higher omega-3 intake to decreased age-related mental decline and a reduced risk of Alzheimer's disease (73, 74, 75). A review of controlled studies suggests that omega-3 supplements may be beneficial in disease onset when the symptoms of AD are (76). Remember that more research is needed on omega-3 fat and Health. Summary Omega-3 fats can help prevent age-related mental decline and Alzheimer's disease, but more research is needed. Cancer is one of the leading causes of death in the Western world, and omega-3 fatty acids have long been claimed to reduce the risk of certain cancers. Interestingly, studies show that people who consume the most omega-3 fat-3 have up to a 55% lower risk of colon cancer (77, 78). Additionally, omega-3 consumption is linked to a reduced risk of prostate cancer in men and breast cancer in women. However, not all studies produce the same results (79, 80, 81). Summary Omega-3 intake can reduce the risk of some types of cancer, including colon, prostate and breast cancer. Asthma is a chronic lung disease with symptoms such as coughing, shortness of breath and wheezing. Severe asthma attacks can be very dangerous. They are caused by inflammation and swelling in the airways of the lungs. What's more, asthma rates in the U.S. have been rising over the last few decades (82). Several studies link omega-3 consumption with a lower risk of asthma in children and young adults (83.84). Summary Omega-3 intake has been associated with a lower risk of asthma in both children and young adults. Non-alcoholic fatty liver disease (NAFLD) is more common than you think. The obesity epidemic has increased to become the most common cause of chronic liver disease in the Western world (85). However, supplementing with omega-3 fatty acids effectively reduces liver fat and inflammation in people with NAFLD (85,86). Summary Omega-3 fatty acids reduce liver fat in people with non-alcoholic fatty liver disease. Osteoporosis and arthritis are two common disorders that affect your skeletal system. Studies suggest that omega-3 fat alcohol can improve bone strength by increasing the amount of calcium in your bones, which should lead to a reduced risk of osteoporosis (87, 88). Omega-3 fat and fat lowers can also treat arthritis. Patients taking omega-3 supplements have reported decreased joint pain and increased grip strength (89,90). Summary Omega-3s can improve bone strength and joint health, potentially reducing your risk of osteoporosis and arthritis. Menstrual pain occurs in your lower abdomen and pelvis and often radiates to your lower back and thighs. It can greatly affect your quality of life. However, studies repeatedly prove that women who consume the most omega-3 fat-3 have milder menstrual pain (91, 92). One study even determined that an omega-3 supplement was more effective than ibuprofen in treating severe pain during menstruation (93). Summary Omega-3 fatty acids can reduce menstrual pain and may even be more effective than ibuprofen, an anti-inflammatory drug. Good sleep is one of the foundations of optimal health. Studies tie sleep deprivation to many including obesity, diabetes and depression (94, 95, 96, 97). Low levels of omega-3 fatty acids are associated with sleep problems sleep problems children and obstructive sleep apnea in adults (98,99). Low levels of DHA are also linked to lower levels of the hormone melatonin, which helps you fall asleep (100). Studies in both children and adults show that supplementing with omega-3 increases the length and quality of sleep (98,100). Summary Omega-3 fatty acids - especially DHA - can improve the length and quality of your sleep. DHA is a structural component of your skin. It is responsible for the health of cell membranes, which make up a large part of your skin. A healthy cell membrane results in soft, moist, supple and wrinkle-free skin. EPA also benefits your skin in several ways, including (101, 102): Managing oil production and hydration of your skin. Preventing hyperkeratinization of the hair follicles that appear as the little red buds often seen on the upper arms. Reduction premature aging of your skin. Reduce the risk of acne. Omega-3 fat colors can also protect your skin from sun damage. EPA helps block the release of substances that eat away at collagen in the skin after the sun (101). Summary Omega-3s can help keep your skin healthy, prevent premature aging and protect against sun damage. Page 2Written by Ruairi Robertson, PhD on December 18, 2018Fish oil is one of the most commonly consumed supplements. It is rich in omega-3 fatty acids, which are very important for your health. If you don't eat a lot of oily fish, taking a fish oil supplement can help you get enough omega-3 fatty acids. Here are 13 health benefits of fish oil. Share on PinterestWe include products that we think are useful to our readers. If you buy via links on this page, we can earn a small commission. Here's our process. Fish oil is fat or oil extracted from fish tissue. It usually comes from oily fish, such as herring, tuna, anchovies and mackerel. But it is sometimes produced from the livers of other fish, as is the case with cod liver oil. The World Health Organization (WHO) recommends eating 1-2 servings of fish per week. This is because omega-3 fatty acids in fish provide many health benefits, including protection against a number of diseases. But if you don't eat 1-2 servings of fish a week, fish oil supplements can help you get enough omega-3 fat-3s. About 30% of fish oil consists of omega-3 fatty acids, while the remaining 70% consists of other fats. What's more, fish oil usually contains some vitamin A and D.It is important to note that the types of omega-3 fat and auxiliary oil found in fish oil have greater health benefits than omega-3s found in some plant sources. The main omega-3 fatty acids in fish oil are eicosapentaenic acid (EPA) and docosahexaenoic acid (DHA), while omega-3 in vegetable sources is mainly alpha-linolenic acid (ALA). Although ALA is an essential fatty acid, EPA and DHA have many more health benefits (1,2). It is also important to get enough omega-3 fat-3 because it replaced a lot of omega-3 fats with other fats like omega-6 fat. This distorted relationship between fatty acids can contribute to many diseases (3, 4, 5, 6). Heart disease is the leading cause of death worldwide (7). Studies show that people who eat a lot of fish have much lower rates of heart disease (8, 9, 10). Several risk factors for heart disease appear to be reduced by consuming fish or fish oil. The benefits of fish oil for heart health include: Cholesterol levels: It can increase levels of good HDL cholesterol. However, it does not seem to reduce levels of bad LDL cholesterol (11, 12, 13, 14, 15, 16). Triglycerides: It can lower triglycerides by about 15-30% (16, 17, 18). Blood pressure: Even in small doses, it helps reduce blood pressure in people with elevated levels (19, 20, 21). Plaque: It can prevent plaques that cause your arteries to harden, as well as make arterial plaques more stable and safer in those who already have them (22, 23, 24). Fatal Arrhythmias: In people who are at risk, it can reduce fatal arrhythmia events. Arrhythmias are abnormal heart rhythms that can cause heart attacks in certain cases (25). Although fish oil supplements can improve many of the risk factors for heart disease, there is no clear evidence that it can prevent heart attacks or strokes (26). SUMMARY Fish oil supplements can reduce some of the risks associated with heart disease. However, there is no clear evidence that it can prevent heart attacks or strokes. Your brain consists of almost 60% fat, and much of this fat is omega-3 fatty acids. Therefore, omega-3 adipose tissue is essential for normal brain function (27, 28). In fact, some studies suggest that people with certain mental disorders have lower omega-3 blood levels (29, 30, 31). Interestingly, research suggests that fish oil supplements may prevent onset or improve symptoms of some mental disorders. For example, it can reduce the chances of psychotic disorders in those at risk (32,33). In addition, supplementing with fish oil in high doses can reduce some symptoms of both schizophrenia and bipolar disorder (33, 34, 35, 36, 37, 38). SUMMARY Fish oil supplements can improve the symptoms of certain psychiatric disorders. This effect may be a result of increasing omega-3 fatty acid intake. Obesity is defined as having a body mass index (BMI) greater than 30. Globally, about 39% of adults are overweight, while 13% are obese. The figures are even higher in high-income countries such as the United States (39). Obesity can increase your risk of other diseases, including heart disease, type 2 diabetes, and cancer (40, 41, 42). Fish oil supplements can improve body composition and risk factors for heart disease in obese people (43, 44, 45). In addition, some studies suggest that fish oil supplements, in combination with diet exercise can help you lose weight (43, 46). However, not all studies effect (47, 48). An analysis of 21 studies notes that fish oil supplements did not significantly reduce weight in obese individuals, but did reduce waist circumference and waist-to-hip ratio (49). SUMMARY Fish oil supplements can help reduce waist circumference, as well as aid weight loss when combined with diet or exercise. Like your brain, your eyes rely on omega-3 fats. Evidence shows that people who do not get enough omega-3 fat-3 have a greater risk of eye diseases (50, 51). In addition, eye health begins to decline in old age, which can lead to age-related macular degeneration (AMD). Eating fish is linked to a reduced risk of AMD, but the results on fish oil supplements are less convincing (52,53). One study found that consuming a high dose of fish oil for 19 weeks improved vision in all AMD patients. However, this was a very small study. Two larger studies examined the combined effect of omega-3 and other nutrients on AMD. One study showed a positive effect, while the other showed no effect. The results are therefore unclear (55, 56). SUMMARY Eating fish can help prevent eye diseases. However, it is unclear whether fish oil supplements have the same effect. Inflammation is your immune system way to fight infection and treat injuries. But chronic inflammation is associated with serious diseases, such as obesity, diabetes, depression, and heart disease (57, 58, 59). Reducing inflammation can help treat symptoms of these diseases. Because fish oil has anti-inflammatory properties, it can help treat conditions that involve chronic inflammation (60). For example, in stressed and obese individuals, fish oil can reduce the production and gene expression of inflammatory molecules called cytokines (61,62). In addition, fish oil supplements can significantly reduce joint pain, stiffness, and medication needs in people with rheumatoid arthritis, which causes painful joints (63,64). While inflammatory bowel disease (IBD) is also triggered by inflammation, there is no clear evidence as to whether fish oil improves its symptoms (65, 66). SUMMARY Fish oil has strong anti-inflammatory effects and can help reduce symptoms of inflammatory diseases, especially rheumatoid arthritis. Your skin is the largest organ in the body and it contains a lot of omega-3 fatty acids (67). Skin health can decrease throughout your life, especially in old age or after too much sun exposure. That said, there are a number of skin conditions that can benefit from fish oil supplements, including psoriasis and dermatitis (68, 69, 70). SUMMARY Your skin may be damaged by aging or too much sun exposure. Fish oil supplements can help maintain healthy skin. Omega-3 fats are essential for early growth and development (71). Therefore, it is important for mothers to probably omega-3 fat-3 during pregnancy and while breastfeeding. Fish oil supplements in pregnant and mothers may improve hand-eye coordination in infants. However, it is unclear whether learning or IQ has improved (72, 73, 74, 75, 76). Taking fish oil supplements during pregnancy and lactation can also improve infant visual development and help reduce the risk of allergies (77, 78). SUMMARY Omega-3 fatty acids are essential for an infant's early growth and development. Fish oil supplements in mothers or infants can improve hand-eye coordination, although their effect on learning and IQ is unclear. Your liver processes most of the fat in the body and can play a role in weight gain. Liver disease is increasingly common - especially non-alcoholic fatty liver disease (NAFLD), where fat accumulates in your liver (79). Fish oil supplements can improve liver function and inflammation, which can help reduce the symptoms of NAFLD and the amount of fat in the liver (80, 81, 82, 83). SUMMARY Liver disease is common in obese individuals. Fish oil supplements can help reduce fat in your liver and symptoms of non-alcoholic fatty liver disease. Depression is expected to be the second leading cause of disease by 2030 (84). Interestingly, people with severe depression seem to have lower blood levels of omega-3 fat-3 (29, 85, 86). Studies show that fish oil and omega-3 supplements can improve symptoms of depression (87, 88, 89). In addition, some studies have shown that oils rich in EPA help reduce depressive symptoms more than DHA (90, 91). SUMMARY Fish oil supplements - especially EPA-rich ones - can help improve symptoms of depression. A number of behavioral disorders in children, such as attention deficit hyperactivity disorder (ADHD), involve hyperactivity and inattention. Given that omega-3 adipose tissue makes up a significant part of the brain, getting enough of them may be important for preventing behavioral disorders in early life (92). Fish oil supplements can improve perceived hyperactivity, inattention, impulsivity, and aggression in children. This can benefit early learning in life (93, 94, 95, 96). SUMMARY Behavioural disorders in children may interfere with learning and development. Fish oil supplements have been shown to help reduce hyperactivity,

inattention, and other negative behaviors. As you age, your brain function slows, and your risk of Alzheimer's disease increases. People who eat more fish tend to experience a slower decline in brain function in old age (97, 98, 99). However, studies of fish oil supplements in older adults have not provided clear evidence that they can slow the decline in brain function (100, 101). Nevertheless, some very small studies have shown that fish oil can improve memory in healthy, older adults (102, 103). SUMMARY People who eat more fish have slower age-related mental declines. However, it is unclear whether fish oil supplements can prevent or mental decline in older adults. Asthma, which can cause swelling in the lungs lungs shortness of breath, becomes much more common in infants. A number of studies show that fish oil can reduce asthma symptoms, especially in early life (104, 105, 106, 107). In a review of nearly 100,000 people, a mother's fish or omega-3 intake was found to reduce the risk of asthma in children by 24-29% (108). In addition, fish oil supplements in pregnant mothers may reduce the risk of allergy in infants (109). SUMMARY A higher intake of fish and fish oil during pregnancy can reduce the risk of asthma and allergies in children. During old age, bones can begin to lose their essential minerals, making them more likely to break. This can lead to conditions such as osteoosis and osteoarthritis. Calcium and vitamin D are very important for bone health, but some studies suggest that omega-3 fatty acids may also be beneficial. People with higher omega-3 intake and blood levels may have better bone mineral density (BMD) (110, 111, 112). However, it is unclear whether fish oil supplements improve BMD (113, 114). A number of small studies suggest that fish oil supplements reduce markers of bone breakdown, which can prevent bone disease (115). SUMMARY Higher omega-3 intake is associated with higher bone density, which can help prevent bone disease. However, it is unclear whether fish oil supplements are beneficial. If you don't eat 1-2 servings of oily fish a week, consider taking a fish oil supplement. If you want to buy fish oil supplements, there is an excellent selection on Amazon.Below is a list of things to consider when taking a fish oil supplement: DoseEPA and DHA dosage recommendations vary depending on your age and health. Who recommends a daily intake of 0.2-0.5 grams (200-500 mg) combined EPA and DHA. However, it may be necessary to increase the dosage if you are pregnant, nursing, or at risk of heart disease (116). Choose a fish oil supplement that provides at least 0.3 grams (300 mg) of EPA and DHA per serving. FormFish oil supplements come in a number of forms, including ethyl esters (EE), triglycerides (TG), reformed triglycerides (rTG), free fatty acids (FFA) and phospholipids (PL). Your body does not absorb ethyl esters as well as others, so try to choose a fish oil supplement that comes in one of the other listed forms (117). ConcentrationMany supplements contain up to 1,000 mg of fish oil per serving — but only 300 mg of EPA and DHA. Read the label and choose a supplement that contains at least 500 mg of EPA and DHA per 1,000 mg of fish oil. PurityA number of fish oil supplements do not contain what they say they do (118). To avoid these products, choose a supplement that is third-party tested or has a seal of purity from the global organization for EPA and DHA Omega-3s (GOED). FreshnessOmega-3 fatty acids are prone to oxidation, making them go hark. To avoid this, you can select a supplement antioxidant, such as vitamin E. Also, keep your supplements away from light - ideally in the fridge. Do not use a fish oil supplement that has a hare smell or is outdated. SustainabilityForænge a fish oil supplement that has a sustainability certification, such as from the Marine Stewardship Council (MSC) or the Environmental Defense Fund.The production of fish oil from anchovies and similar small fish is more sustainable than from large fish. TimingOther diets help your absorption of omega-3 fatty acids (119). Therefore, it is best to take your fish oil supplement with a meal that contains fat. SUMMARY When reading fish oil labels, be sure to choose a supplement with a high concentration of EPA and DHA and which has purity and sustainability certifications. Omega-3 fats for normal development of the brain and eyes. They fight inflammation and can help prevent heart disease and a decrease in brain function. As fish oil contains a lot of omega-3 fat-3, those at risk of these ailments may benefit from taking it. However, eating whole foods is almost always better than taking supplements, and eating two servings of oily fish a week can give you enough omega-3 fat-3s. In fact, fish are as effective as fish oil — if not more — in preventing many diseases. That said, fish oil supplements are a good alternative if you don't eat fish. Fish.