

## The main medical indications of natural bile acids:

1. Reducing / eliminating complaints related to bile production or biliar tract passage disturbances:
  - 1.1. enhancing bile discharge, supporting bile flow
  - 1.2. reducing the risk of bile stone formation
  - 1.3. reducing / eliminating symptoms due to the functional disorders of the biliar tract passage following cholecystectomy
2. Reducing / eliminating gastroenterological disorders especially (stomach) overload
3. Eliminating defecation disorders (irregular defecation or hard fecal matter), defecation control
4. Postively influencing the disorders of the enterohepatic circulation
5. Reducing colitis
6. Positively influencing a great number of diseases related to endotoxins, lipopolysaccharides and cytokines produced by these that cause the most various types of inflammations in almost any organs of the human body. Bile acids are the most important tools in neutralizing endotoxins.
7. Alleviation of the negative effects of psoriasis.
8. Cholic acid, as part of the main component of bile acids, appears forming a compound (conjugating) with **TAURIN**. It is the so called **taurocholic acid that can be found in the bile of a great number of animals, especially in bovines (oxen)**, which supports the body in the following ways:
  - 8.1. Taurin represents 50% of the free amino acids present in the heart and it is proven that taurin has a positive effect on cardiac muscles. When the heart is unable to pump blood into the body effectively enough, taurin will support cardial contraction so that the heart can pump blood more intensively and it reduces blood pressure. According to the latest research, the consumption of products containing taurin (e.g. containing bile acids) may have a promising effect on people suffering from heart failure.
  - 8.2. Taurin supports the stream of glucose into the cells thus increasing physical performance and reducing blood sugar level. As a cell volumizer and insuline mimetic, taurin is used for transporting key nutrients into muscle cells such as glucose and amino acids. By mimicking insulin taurin helps to transport amino acids and glucose into the muscle cells and thus has an important role in cell volumization. This means that the cell gets into a „super hydrated” state, which – according to researchers – results in faster protein synthesis and reduced protein degradation. This, at the same time, leads to increase in strength and muscle mass. Research has also shown that the consumption of products containing taurin (e.g. containing bile acids) reduces the level of ethyl-histadine (3-MH). This also hows that taurin helps to reduce the degradation of the body’s protein reserve.
  - 8.3. Prolonged muscle load reduces taurin and amino acid content in the muscles. After a while the transport of glucose and calcium is arrested and a spasm may develop in the muscles. It can be alleviated by products containing taurin such as bile acids.
  - 8.4. Taurin helps generate brain impulses by enhancing the flow of calcium, sodium and magnesium out of an into cells. Thus it plays a key role in nerve functions and in blood pressure control. Furthermore, it is an inhibitory neurotransmitter (tranquilizing chemical signal) and can also have a cell membrane stabilizing role. This means it tranquilizes the brain and the nervous system and helps overcome anxiety, epilepsy and other brain related disorders. It is also considered a mild sedative.
  - 8.5. Taurin stabilizes the cell membranes and helps maintain intracellular calcium balance and calcium level, it regulates calcium level. The proper amount of taurin reduces the chance of cardiac calcification. Cardiac muscles suffer the most from a low taurin level.
  - 8.6. Taurin is essential for the optimal development of the nervous system.
  - 8.7. Administering products containing taurin is useful in diebetes, in treatment of stress and in reducing the effects of increased intellectual and physical load.

- 8.8. Taurin is an important tool in fat burning: one of the positive effects of taurin is its ability to dispatch fat burning hormones such as growth hormone. Besides, taurin partakes in the metabolism of bile acids that play an important part in fat digestion. Taurin is essential for the proper digestion of fats, for the absorption of fat-soluble vitamins and cholesterol level control. Taurin deficiency is especially common in people with overweight.
- 8.9. Some researches have shown taurin to reduce the cholesterol level in the liver and to attenuate bile, thus preventing the formation of bile stones.
9. In summary, its partially known physiological effects:
  - 9.1. Takes part in different ways in the processes of maintaining health and performance
  - 9.2. Serves as an energy transmitter and detoxicant
  - 9.3. Stabilizes cell membranes
  - 9.4. Plays a role in the regulation of calcium flow
  - 9.5. Plays a role in the normal operation of certain tissues (e.g. cardiac muscle)
  - 9.6. Regulates the level of fluids in the muscle cells
  - 9.7. Similarly to insulin, it enhances the flow of glucose into cells
  - 9.8. Has a detoxicating, antioxidant and thus immune system strengthening effect
  - 9.9. Taurin positively influences and supports the following:
    - 9.9.1. metabolic processes
    - 9.9.2. adrenaline level
    - 9.9.3. digestion of fats, fat metabolism
    - 9.9.4. the immune system
    - 9.9.5. cholesterol level
    - 9.9.6. blood sugar level
    - 9.9.7. sperm production
    - 9.9.8. bile production
    - 9.9.9. blood pressure
  - 9.10. Taurin deficiency may have the following symptoms:
    - 9.10.1. retarded growth
    - 9.10.2. apathy
    - 9.10.3. oedema
    - 9.10.4. low body temperature
    - 9.10.5. hepatic disorders
    - 9.10.6. catabolism (muscle loss)
    - 9.10.7. exhaustion/faintness
    - 9.10.8. impairment of vision
    - 9.10.9. cardiac muscle damage
    - 9.10.10. abnormal development of the retina