Nematodes of the genus *Gnathostoma* belong to the *Gnathostomatidae*. At least 13 species have been identified, with 5 recorded in humans. Various species may cause severe infections in humans: *G. spinigerum* (in several geographical areas), *G. doloresi, G. hispidum, G. nipponicum* (all 3 only in Japan), *G. binucleatum* (only in the Americas). Humans are infected by eating raw or undercooked shellfish, freshwater fish, frogs or chicken. The male worms are 10-25 mm long and the females' measure 25-55 mm. The third-stage larvae, which are responsible for disease in humans, measure about 3 mm. The final host for *G. hispidum* is the pig. The usual final hosts for *G. spinigerum* are dogs and cats. The eggs reach the outside world in the faeces. If they are dropped into water they will hatch 10 days later.

Freshwater copepods (*Cyclops*, belonging to water fleas) are the first intermediate hosts. Fish, amphibians and various mammals may become infected by eating the infected *Cyclops*. There is low host-specificity and humans can also become infected.

The incubation time can be as long as 10 years. The larvae cannot develop into adult worms in humans. They migrate through the body and in doing so may trigger itching, transient subcutaneous swelling with local erythema and possible discrete pain. These symptoms occur after an interval of days to weeks. The swellings are caused by local oedema, necrosis and haemorrhages within the migration path. If the larvae penetrate vital organs (e.g. the brain) the situation may become life-threatening.

Gnathostomiasis is an important cause of eosinophilic meningitis and myelitis. Almost all cases of neurognathostomiasis are reported from Thailand and result from infection with *G. spinigerum.* Gnathostoma larvae typically enter the spinal cord along the nerve roots resulting in radiculomyelitis.

The worm can ascend the spinal cord and reach the brain. This journey can take several years. Spinal cord disease result in radicular pain followed by ascending paralysis of legs or quadriparesis with bladder dysfunction and eosinophilic pleocytosis in the cerebrospinal fluid. Diagnosis can be confirmed via serology. Most often ELISA is performed, followed by Western Blot if positive; a positive 24-kD band is nearly 100% specific for gnathostomiasis. Mechanical / surgical extraction of the larva is possible in a minority of patients (11% in one series).

No randomized trials of antihelminthic therapy have been conducted. The treatment is symptomatic and if possible / necessary also surgical. Albendazole 400 – 800 mg daily for 21 days is often used as an etiologic treatment. An alternative is two repeated doses of ivermectine. Corticosteroids have been used to treat cerebral and spinal oedema.