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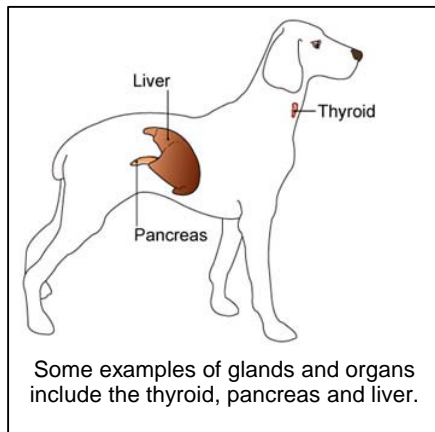
WHOLE FOOD SUPPLEMENTS OR GLANDULAR THERAPY FOR PETS

What are whole food supplements?

Whole tissue supplements and glandular therapies involve feeding glands, organs or tissues from healthy animals to patients. Supplements are given either as fresh tissue or as tissue extracts in the hope that the supplement contains constituents that will help improve the function of the corresponding organ in the patient.

What is the history of whole tissue supplementation in medicine, and in veterinary medicine?

The history of glandular or tissue therapy has its roots in ancient cultures, as exhibited by the common belief that the health or function of a specific body part could be enhanced by consuming the same organ from a specific animal. The practice was accepted to varying degrees as modern civilizations advanced. With the development of endocrinology (the study of hormones, glandular organs and their function), and the understanding of the actions of hormones on the body, glandular therapy acquired a basis in science, and gained popularity as a form of medical treatment. The modern use of thyroid hormone supplements in hypothyroid patients, and even porcine insulin in diabetics, can be seen as stemming from this historical practice.



As chemists and biochemists developed improved analytical and extraction methods, the medical profession embraced the use of pharmacologic doses of pure hormones and other pharmaceutical agents for therapy, either as natural or synthetic products. Physiologists, nutritionists, and medical professionals accepted the idea that other tissue constituents such as proteins, fats, and carbohydrates were not absorbed intact, but were broken down into their amino acid, fatty acid or simple sugar components. Consequently, the scientific community generally abandoned glandular therapy in favor of pure drug treatments.

The principal challenge to oral glandular therapy was the lack of evidence that large molecules were absorbed intact across the intestinal wall, and that there was no evidence that ingested materials could exert specific effects (either sparing effects or healing effects) on target tissues. However, radioactive and dye studies have demonstrated that large hormones, enzymes, proteins and peptides are routinely absorbed intact or only partially degraded, and that these constituents can concentrate in target tissues. Laboratory studies have documented a more rapid uptake of tagged cells or their components by traumatized organs than normal organs, leading to enhanced healing rates. These observations have

lead to the resurgence of interest in whole food supplementation, or glandular therapy, as a method of promoting tissue sparing and cellular repair in specific disease states.

Veterinary use of whole tissue supplements has paralleled its use in the human field. In recent decades, holistic practitioners have begun to employ glandular therapy and whole tissue supplementation in immune-mediated and degenerative disorders that are often refractory to conventional therapies.

How can glandular therapy benefit my pet?

Whole glandular products and tissues are good sources of enzymes, fats, steroids, nutraceuticals and proteins. Low doses of supplemental enzymes and hormones such as the levels that would be found in these tissues or extracts may have a sparing effect on functional health problems such as hormone deficiency, without suppressing the body's natural production. This is in contrast to the use of high doses of purified hormones are administered pharmacologically, and are believed to inhibit further hormone production by the body itself. Oral administration of tissue extracts from healthy sources may have the potential to slow the progression of degenerative disease or to promote healing of damaged tissues.

On which species of animals is glandular therapy or whole tissue supplementation practiced regularly?

Modern theories about the activity of glandular products are based on research in laboratory animal species. Glandular therapy has been demonstrated to be effective in treating problems with immune-mediated diseases and specific organ dysfunctions in the laboratory animals. Species variation in the molecular composition is apparently not a limiting factor in most instances – in other words, there is no indication that tissues derived from one animal species are ineffective in a patient of other species.



The use of pancreatic enzyme supplementation from pancreatic tissue extracts is a common form of veterinary therapy for a condition known as Exocrine Pancreatic Deficiency in dogs. Although the enzyme activity was thought to be limited to the lumen of the intestinal tract, there is now evidence that the enzymes are reabsorbed and re-circulated in the body (a process called enteropancreatic circulation). Once absorbed into the circulation, absorbed enzymes can sometimes contribute to other reactions in other organs.

For the past several decades, a number of holistic veterinary practitioners have used glandular therapies for the treatment of companion animals, primarily dogs and cats. Most of these therapies use oral freeze-dried concentrates of selected tissues to treat degenerative conditions. Clinical trials demonstrating efficacy have not yet been performed.

How successful is glandular therapy or whole tissue supplementation?

Research suggests that glandular therapy and whole tissue supplementation have the potential to be successful forms of therapy for immune-mediated diseases or degenerative conditions. Anecdotal evidence of success has been reported, but success rates have not been documented.

How safe is whole tissue supplementation or glandular therapy?

There are no apparent side effects of this form of supplementation. Theoretically, patients sensitive to meat from certain species may exhibit allergic reactions to glandular extracts

from the same species. Because of this potential, a small test dose should always be administered prior to administering full dose regimes. Glandular therapy or whole tissue supplementation may be contraindicated in severe kidney disease, liver failure and acute infections. Its effect on pregnancy is unknown.

There may be safety risks associated with the transfer of viruses from one species to another, especially when fresh tissues are fed. (Mad cow disease or bovine spongioencephalopathy virus can be transmitted in this manner). Using tissues only from non-intensively reared or certified sources may reduce this risk. It appears that freeze-drying may minimize or eliminate some of these risks by controlling or assuring sterility while preserving the cellular contents.

What is the cost of whole food supplementation or glandular therapy?

The cost of this supplementation will depend upon the form of supplement that is used. Whole fresh tissues may be readily obtained and relatively inexpensive but may be less safe. Freeze-dried concentrates or extracts are safer and may have more predictable consistency of contents, but are more costly.

Can whole food supplementation or glandular therapy be combined with other types of veterinary medicine?

There are no known concerns about combining this form of supplementation with other treatments. However, when multiple forms of therapy are used simultaneously, it can be difficult to know which treatment is producing which effect on the patient.

*This client information sheet is based on material written by Steve Marsden, DVM ND MSOM LAc DiplCH AHG, Shawn Messonnier, DVM and Cheryl Yuill, DVM, MSc, CVH.
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