

Remedies from God's Book of Nature™

THE MIDNIGHT BLUE PAPERS

MEDICINAL PLANTS AND HERBAL AGENTS

HEALTH NUGGET

USEFUL TOOLS IN THE MEDICAL MISSIONARY WORK

INTRODUCTION

In the arena of Medical Missionary work, within the over-arching subject of medicinal plants and herbal agents, we would like to bring to your attention the herb **Milk Thistle** (MT). Our focus here will be on its uses as an internal medicine rather than a topical agent. As this is not a classroom setting, the information we intend to impart should be considered general in nature. We will field questions, comments, concerns, and/or suggestions after this gathering. *(Please note; from the point of view of Traditional Western Medicine (TWM) and for legal reasons, this information is provided solely for educational purposes and is not intended to diagnose, treat, or cure any disease or disorder.)*

The plant itself resembles a flower, being upright and having a conical shape. The flower heads are broad and of a red-purple color. The stem is grooved and cottony. The leaves are oblong to lanceolate, hairless, shiny green, with milk-white veins. Each part is edible. It flowers from June to August in the Northern Hemisphere and from December to February in the Southern Hemisphere. **Modern usage revolves around the gray seeds and the extracts made from them.** The seeds develop in the flower head with the head eventually becoming fluffy and silvery-white. This signifies that the seeds are ripening and ready for dispersal by wind. So, from the inside of these fluffy dried-out flower heads, the seeds may be harvested for medicinal uses.

TALKING POINTS/BRIEFING

BENEFITS AND USES

Milk Thistle is considered a **tonic** herb. It's used for liver disorders including **toxic liver damage** caused by chemicals, **jaundice**, **chronic inflammatory liver diseases**, **dyspepsia** and gallbladder complaints, **hangovers**, **prostate cancer**, **pleurisy**, **malaria**, and **depression**. Other uses include lowering **cholesterol** levels, reducing **insulin resistance** in people who have both Type-II **diabetes** and **cirrhosis**, and **reducing** the growth of breast-, cervical- and prostate **cancer cells**. When combined with other **antiseptic** and **anti-inflammatory** herbs like Dandelion, Ginger, Goldenseal, or Turmeric, its effects are increased. The constituents consist of the minerals: **calcium**, **iron**, **magnesium**, **potassium**, and **zinc**.

METHODS OF USE

In **Traditional**- or **Alternative Medicine** MT can be used in **fresh**, **dried**, or **powdered** forms or as an alcohol- or vegetable glycerin-based **tincture**. It was featured in a Facebook (fb) group that focuses on food foraging in the Southwest U.S.; see [post](#).

In its **fresh** form, the leaves and stems can be gathered ahead of bloom (the spines removed) and then drank as **raw** tea, added to salads, or **boiled** in salted broths or soups. The roots are edible **raw** or **roasted** and the flower head can be cooked as one would an artichoke globe. The seeds may be **roasted** as a coffee substitute. In its **dried** form (cut and/or sifted), both the leaves and seeds may be made into a standard tea (infusion) and preferably served warm. (The tea has been claimed to have many benefits such as lowering blood sugar, reducing age-related decline in brain function, and lessening acne.) In its **powdered** form, it should be ground fine, then capsulated and can be ingested in increased amounts for convenience, preferably with food. When decanted into a **tincture**, the potent result can be taken in water or under the tongue to alleviate acute symptoms.

Milk Thistle is a powerful tool in aiding detoxification, reducing oxidative stress, and combatting inflammation. In our work, this herb is considered an essential tool as it affects an organ of elimination and should be standard in our kits.

As you review this topic, please consider [James 1:5](#) and [3 John 2](#). We thank you for your time and attention.

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THE USE OF NATURAL REMEDIES

Disease is an effort of nature to free the system from conditions that result from a violation of the laws of health. In case of sickness, the cause should be ascertained. Unhealthful conditions should be changed, wrong habits corrected. Then nature is to be assisted in her effort to expel impurities and to re-establish right conditions in the system. – {[MH 127.1](#), see also 127.2-4}

DISCLAIMER

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FREEHAND NOTES



Remedies from God's Book of Nature™

THE MIDNIGHT BLUE PAPERS MEDICINAL PLANTS AND HERBAL AGENTS MILK THISTLE

AKA ST. MARY'S THISTLE, CHARDON DE NOTRE-DAME, CARDO LECHOSO, SHUI FÊI JI

DISCUSSION

Milk Thistle (MT) is an herbaceous annual or biennial plant whose seeds (or fruit) and leaves have been used for more than **2,000** years as a treatment for disorders of the **liver**, **bile ducts**, and **gallbladder**. Historically, it is also believed to have *protective effects* on the liver and improve its function.

The ancient Greeks and Romans used it as a treatment for liver ailments and snake bites. Its use for liver disorders dates back to Pliny the Elder, a Roman naturalist in the first century AD, who described it as being “excellent for carrying off bile.” Theophrastus (4th century BC) and Dioscorides (1st century AD) also wrote of its value. During the Middle Ages, MT was recommended to treat liver toxins. The English herbalist, Nicholas Culpeper (1650), claimed it was effective for supporting the normal functioning of the liver. Modern homeopathic practitioners have used compounds from the seeds to treat a range of disorders including **jaundice**, **gallstones**, and **peritonitis**. The [German Commission E](#), which studies the safety and efficacy of herbs for the German government, recommends it for liver damage due to toxins, cirrhosis of the liver, and as a supportive therapy for chronic inflammation of the liver.

In [Traditional](#)- or [Alternative Medicine](#) the parts that are used are the **leaves** and **seeds**, but most modern usage revolves around the grey seeds and the extracts made from them. Each part can be used in **fresh**, **dried**, or **powdered** form or as an alcohol- or vegetable glycerin-based **extract**. In foods, the milk thistle leaves and flowers are eaten as a vegetable and seeds are roasted for use as a coffee substitute.

Originally a native of Southern Europe through to Asia, it is now found throughout the world. It grows **30-200** cm tall, having an overall conical shape with an approximate **160** cm maximum diameter base. The stem is grooved and more or less cottony. With the largest specimens the stem is hollow. The leaves are oblong to lanceolate. They are either lobate or pinnate, with spiny edges. They are hairless, shiny green, with milk-white veins. The flower heads are **4-12** cm long and wide, of red-purple color. They flower from June to August in the Northern Hemisphere or from December to February in the Southern Hemisphere. The bracts are hairless, with triangular, spine-edged appendages, tipped with a stout yellow spine. The achenes are black, with a simple long white pappus, surrounded by a yellow basal ring. A long pappus acts as a *parachute*, supporting seed dispersal by wind.



BOTANICAL CLASSIFICATION

Kingdom	Order	Family	Tribe	Genus	Species
Plantae	Asterales	Asteraceae	Cynareae	Silybum	S. Marianum

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THE USE OF NATURAL REMEDIES

A practice that is laying the foundation of a vast amount of disease and of even more serious evils is the free use of poisonous drugs. When attacked by disease, many will not take the trouble to search out the cause of their illness. Their chief anxiety is to rid themselves of pain and inconvenience. So they resort to patent nostrums, of whose real properties they know little, or they apply to a physician for some remedy to counteract the result of their misdoing, but with no thought of making a change in their unhealthful habits. If immediate benefit is not realized, another medicine is tried, and then another. Thus the evil continues. – {[MH 126.2](#)}

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MEDICINAL PHILOSOPHY

Orally, MT is used for liver disorders including **toxic liver damage** caused by chemicals, *Amanita phalloides* **mushroom poisoning**, **jaundice**, **chronic inflammatory liver diseases**, **hepatic cirrhosis**, and **chronic hepatitis**. It is also used orally for loss of appetite, dyspepsia and gallbladder complaints, hangover, and diseases of the spleen. And again, orally used for **prostate cancer**, **pleurisy**, **malaria**, **depression**, **uterine complaints**, stimulating breast milk flow, **allergic rhinitis**, and stimulating menstrual flow. *Intravenously*, it is used as a supportive treatment for [*Amanita phalloides*](#) mushroom poisoning. Other uses include lowering **cholesterol** levels, reducing **insulin resistance** in people who have both Type II diabetes and cirrhosis, and **reducing** the growth of breast, cervical and prostate **cancer cells**.

[*Silymarin*](#), which can be extracted from the seeds, is believed to be the biologically active part of the herb. Silymarin's hepatoprotective effects are accomplished via several mechanisms including anti-oxidation, inhibition of lipid peroxidation, enhanced liver detoxification via inhibition of Phase I detoxification and enhanced glucuronidation, and protection of glutathione depletion. Studies have also shown silymarin exhibits several anti-inflammatory effects, including inhibition of leukotriene and prostaglandin synthesis, Kupffer cell inhibition, mast cell stabilization, and inhibition of neutrophil migration. In addition, silymarin has been shown to increase hepatocyte protein synthesis, thereby promoting hepatic tissue regeneration. Clinical studies conducted in Hungary also demonstrated silymarin to have immunomodulatory effects on the diseased liver.

Silymarin is not water soluble, making tea preparations ineffective; therefore, it is usually administered orally in encapsulated form. Because absorption of silymarin from the gastrointestinal tract is only moderate (**23-47%**), it is best administered as a *standardized extract* of **70-80** percent silymarin. In animals and humans, peak plasma levels are reached in four to six hours after an oral dose. Silymarin is excreted primarily via the bile, but some clearance is also achieved via the kidneys. The clearance half-life of silymarin is six to eight hours.

Studies done in mice show that silymarin confers hepatoprotection, attributed to its down regulation of extracellular matrix proteins such as collagen, against thioacetamide-induced liver damage in mice. It may also be useful against liver carcinogenesis by negatively affecting the activity of mast cells, a source of matrix metalloproteins that are involved in invasion and angiogenesis. Silymarin reduced cisplatin-induced kidney damage in rats without diminishing its anti-tumor activity. It may play a role in preventing Alzheimer's disease: studies show that it suppressed the formation of amyloid beta-protein and neurotoxicity in mice.

In addition to its well-recognized role in promoting liver health, key constituents in MT also help to maintain normal kidney function and promote optimal immune function. Limited research suggests that this herb may also support healthy prostate function, and encourage a vital gastrointestinal tract by protecting it from free radical damage. More research is warranted to support the use of this herb for supporting its role beyond enhancing healthy liver function.

A primary constituent of silymarin, called silybin, also helps to support healthy liver function, encouraging healthy cholesterol synthesis by the liver. Animal studies have also demonstrated silybin reduces the conversion of hepatic stellate cells into myofibroblasts, slowing or even reversing fibrosis. It demonstrated antioxidant and anti-inflammatory effects by inhibiting release of hydrogen peroxide and production of tumor necrosis factor alpha. Another study showed improvement in endothelial dysfunction in mice by silybin via reduction in circulating and vascular asymmetric dimethylarginine (ADMA) levels. ADMA is an endogenous inhibitor of nitric oxide synthase (NOS) and is believed to play a role in endothelial dysfunction, associated with cardiovascular disease. Silybin also inhibits the early phase of Hepatitis C viral infection by affecting endosomal trafficking of virions. Silybin and isosilybin were also shown to act as strong inhibitors of PXR-mediated CYP3A4 induction. Other studies indicate the flavonoids in MT exert anticancer effects by arresting G1 and S phases of the cell cycle. Silybin suppressed the epidermal growth factor receptor (EGFR)-induced expression of CD44 (the transmembrane receptor for hyaluronan, implicated in tumor cell invasion and metastasis) by inhibiting EGFR activity in breast cancer cells.

Because of the potassium nitrate content, the plant has been found to be toxic to cattle and sheep. When potassium nitrate is eaten by ruminants, the bacterium in animal's stomach breaks the chemical down, producing a nitrite ion. This nitrite ion then combines with hemoglobin to produce methemoglobin, blocking the transport of oxygen. The result is a form of oxygen deprivation.

PROPERTIES, ACTIVE CONSTITUENTS, NUTRITIONAL INFORMATION

MT is a *tonic* herb, which has been provided to increase energy and strengthen the body. These types of herbs also increase muscular strength and tone the nervous system while improving digestion and assimilation, resulting in a general sense of well-being. Use these with demulcents and emollients to soothe; and often combine mucilage herbs with stimulant herbs, antispasmodic, and carminatives to reduce intestinal gas. Also, tonic herbs combine well with most herbs and usually require aromatics to make them more pleasant.

Among the list of constituents found in MT is the **flavolignan *silymarin***, a mixture of *silybin*, *silidianin*, *silichristin*, with *silybin* being the most biologically active. Silymarin is found in highest concentrations in the fruit portion of the plant but is also found in the leaves and seeds. The seeds also contain betaine, trimethylglycine and essential fatty acids, which may contribute to silymarin's hepatoprotective and anti-inflammatory effects.

Tocopherol sterols: Cholesterol, campesterol, stigmasterol, and sitosterol.

Phytochemicals: Apigenin, beta-carotene, chrysoeriol, dihydrokaempferol, eriodictiol, fumaric acid, kaempferol, linoleic acid, naringenin, palmitic acid, quercetin, silandrin, silybin, silychristin, silydianin, silymarin, [silymonin](#), taxifolin.

Properties: Anti-oxidant, anti-inflammatory, anti-carcinogenic, hepatoprotective, immuno-stimulating, estrogenic (tops only).

Nutrients: Essential fatty acids, calcium, iron, magnesium, manganese, phosphorus, potassium, selenium, zinc.

CAUTIONS, CONTRAINDICATIONS, DOSAGES, ADVERSE REACTIONS

The appropriate dosage depends on several factors such as age, health, and several other conditions. Do follow the relevant directions on product labels and seek advice from Natural Medicine Consultants **before** supplementing a medicinal (drug) regimen. This herb has been associated with nausea, diarrhea, indigestion, intestinal gas, abdominal bloating or pain, pruritus or rash, anaphylaxis, and loss of appetite (anorexia) in some individuals. It also can cause an allergic reaction in individuals sensitive to plants in the Asteraceae/Compositae family including ragweed, marigolds, daisies, and other related plants.

The indiscriminate use of MT can interfere with Kupffer cell metabolism, the normal balance of red cell breakdown (hemolysis), and production (hemopoiesis), and increase the liver's catabolic (breakdown) energy and decrease its anabolic (buildup) functions. Therefore, if one's general homeostasis is at risk through lifestyle, genetic, or environmental factors, adopt proper precautionary measures. In this consultation is key; use only as suggested.

For those who must remain on pharmaceutical drugs such as Anti-Diabetes-, Anti-Psychotic-, Anti-Anxiety-, Anti-Coagulant-, Anti-Seizure, or some Anti-Cancer drugs consult the apposite Medical Doctor (ND, DO, ND) **before** replacing any prescription drug with medicine. When combined with these types of drugs, the following **interactions** may occur and have been categorized as *moderate to minor*.

Some medications are changed and broken down by the liver. MT might decrease how quickly the liver breaks down some medications. Taking MT along with some medications could increase or decrease their effects/side effects and, therefore, how well these medications work. Before taking MT, talk to your healthcare provider if you take any medications that are changed by the liver. .

Medications changed by the liver (Cytochrome **P450 2C9 (CYP2C9)** substrates)

Some medications that are changed by the liver include amitriptyline (Elavil), diazepam (Valium), zileuton (Zyflo), celecoxib (Celebrex), diclofenac (Voltaren), fluvastatin (Lescol), glipizide (Glucotrol), ibuprofen (Advil, Motrin), irbesartan (Avapro), losartan (Cozaar), phenytoin (Dilantin), piroxicam (Feldene), tamoxifen (Nolvadex), tolbutamide (Tolinase), torsemide (Demadex), warfarin (Coumadin), and others.

Medications changed by the liver (Cytochrome **P450 3A4 (CYP3A4)** substrates)

Some medications changed by the liver include lovastatin (Mevacor), ketoconazole (Nizoral), itraconazole (Sporanox), fexofenadine (Allegra), triazolam (Halcion), and many others.

Medications changed by the liver (Glucuronidated drugs)

Some medications changed by the liver include acetaminophen, atorvastatin (Lipitor), diazepam (Valium), digoxin, entacapone (Comtan), estrogen, irinotecan (Camptosar), lamotrigine (Lamictal), lorazepam (Ativan), lovastatin (Mevacor), meprobamate, morphine, oxazepam (Serax), and others.

Tamoxifen (Nolvadex)

MT might increase how much tamoxifen is absorbed by the body. Before taking MT, talk to your healthcare provider.

Estrogens

MT might decrease hormones in the body. MT might help the body break down estrogen pills to get rid of them. Taking MT along with estrogens might decrease the effectiveness of estrogen pills. MT contains a chemical called silymarin. Silymarin might be the part of MT that helps the body break down estrogens. Some estrogen pills include conjugated equine estrogens (Premarin), ethinyl estradiol, estradiol, and others.

Medications used for lowering cholesterol (Statins)

Theoretically, MT might change the levels of some medications used for lowering cholesterol (statins). Some medications used for lowering cholesterol include atorvastatin (Lipitor), fluvastatin (Lescol), lovastatin (Mevacor), pravastatin (Pravachol), and rosuvastatin (Crestor).

A NOTE FROM THE EDITOR

Please note; a *strict* comparison of pharmaceutical drugs to natural medicines is simply **not** possible. Drugs are characterized as chemical substances developed by extraction from natural products ([pharmacognosy](#)) or synthesized through chemical processes. The drug's active ingredient will be combined with a "vehicle" such as a capsule, cream, or liquid which will be dispensed through a particular route of administration. Natural medicines are processed using a philosophically dissimilar approach. Natural medicines have been designed ([phytotherapy](#)) to take advantage of all the plant's mechanisms. Where standard [pharmacology](#) isolates an active compound from a given plant, phytotherapy aims to preserve the complexity of substances from a given plant with relatively less processing.

BIBLIOGRAPHICAL REFERENCES

The following are a few of the resources used to create and maintain this document.

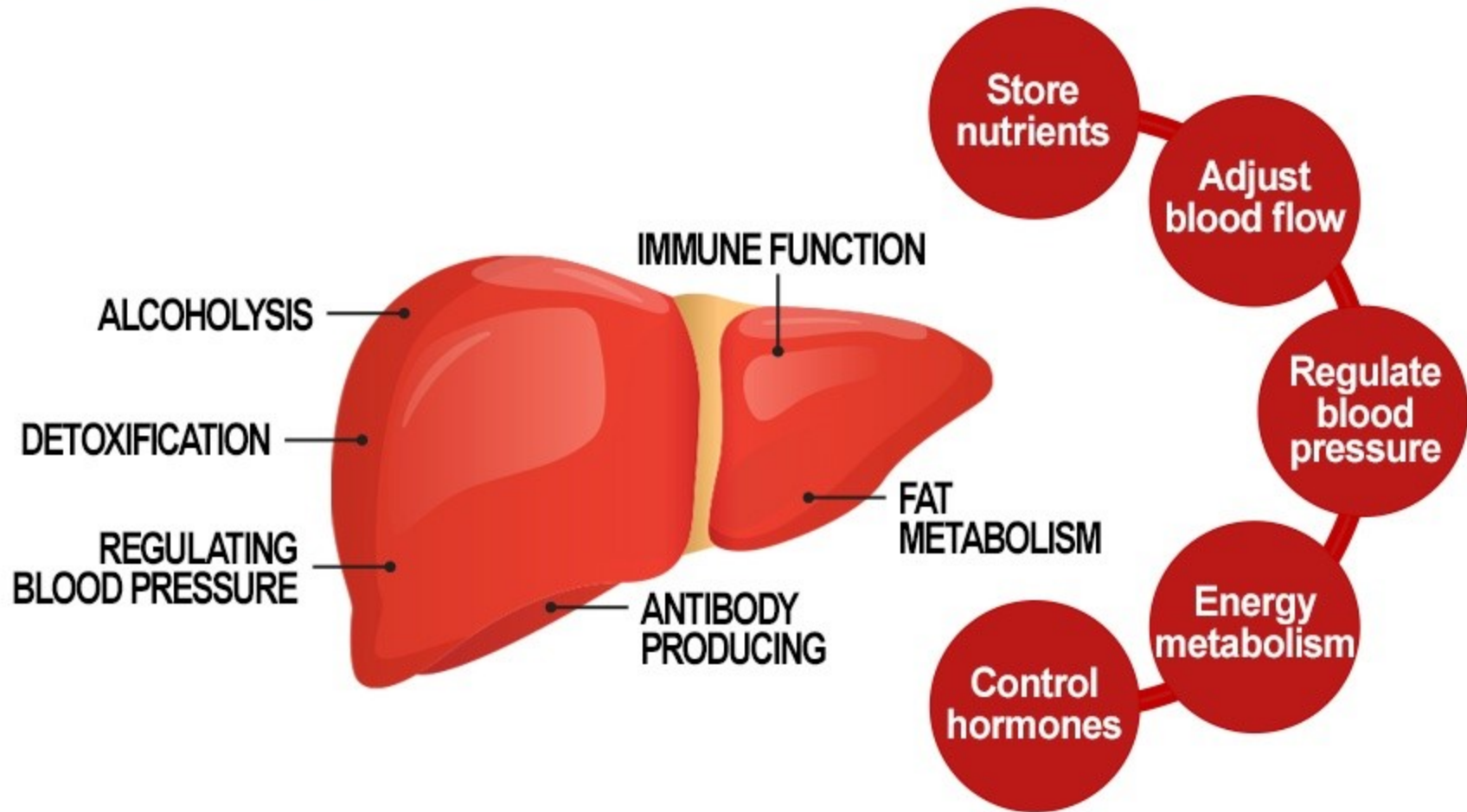
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OVER-ALL NOTES

This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for handwriting practice or general writing. There are no margins, text, or other markings on the page.

FREEHAND NOTES

IMPORTANCE OF LIVER HEALTH



The liver plays the role of metabolism, detoxification, immunity, and bile formation that make necessary substances for the body in the form of nutrients, but if the liver's function is degraded, it can not work properly.

If liver function decreases, hepatitis, cirrhosis, fatty liver, and alcoholic liver diseases may occur.

Liver cells are slowly destroyed, and even if more than half of their function decreases, no special symptoms appear, so it is often not recognized unless it worsens, so you should take care of liver health even when you don't feel symptoms.



How the liver works

The human liver is the ultimate multitasker – it performs many different functions all at the same time without you even asking

The liver is actually the largest internal organ in the human body and, has over 500 different functions. In fact, it is actually the second most complex organ after the brain and is intrinsically involved in almost every aspect of the body's metabolic processes.

The liver's main functions are energy production, removal of harmful substances and the production of crucial proteins. These tasks are carried out within liver cells, called hepatocytes, which sit in complex arrangements to maximise their overall efficiency.

The liver is the body's main powerhouse, producing and storing glucose as a key energy source. It is also

responsible for breaking down complex fat molecules and building them up into cholesterol and triglycerides, which the body needs but in excess are bad. The liver makes many complex proteins, including clotting factors which are vital in arresting bleeding. Bile, which helps digest fat in the intestines, is produced in the liver and stored in the adjacent gallbladder.

The liver also plays a key role in detoxifying the blood. Waste products, toxins and drugs are processed here into forms which are easier for the rest of the body to use or excrete. The liver also breaks down old blood cells, produces antibodies to fight infection and recycles

The hepatobiliary region

Two halves

The liver is anatomically split into two halves: left and right. There are four lobes, and the right lobe is the largest.

The gallbladder

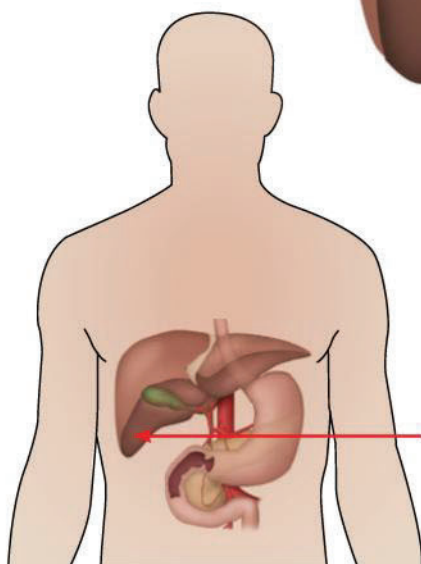
The gallbladder and liver are intimately related. Bile, which helps digest fat, is produced in the liver and stored in the gallbladder.

The common bile duct

This duct is small, but vital in the human body. It carries bile from the liver and gallbladder into the duodenum where it helps digest fat.

Feel your liver

Take a deep breath in and feel just under the right lower edge of your ribs – in some people the lower edge of the liver can be felt.



The biggest organ

The liver is the largest of the internal organs, sitting in the right upper quadrant of the abdomen, just under the rib cage and attached to the underside of the diaphragm.

Eight segments

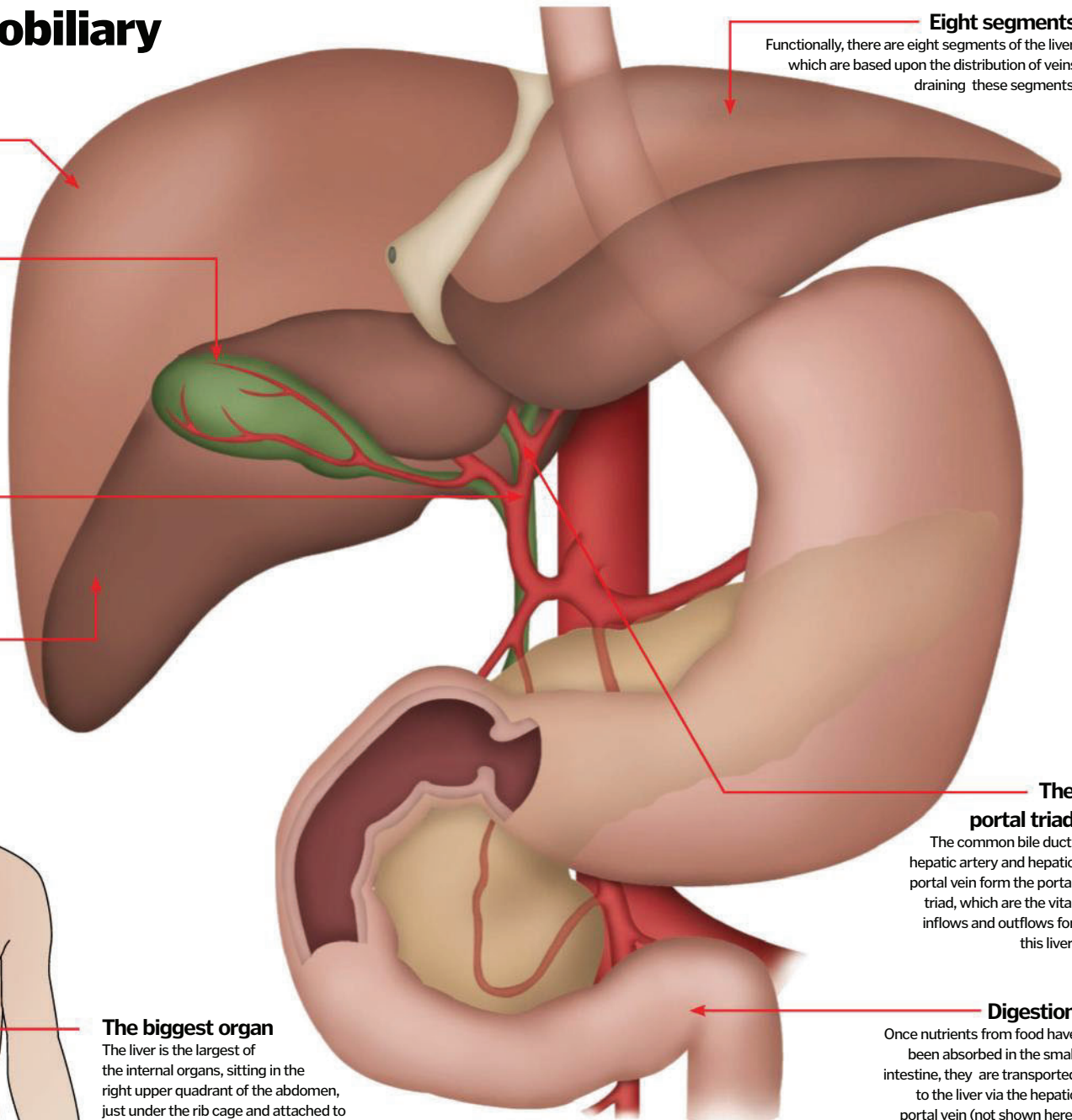
Functionally, there are eight segments of the liver, which are based upon the distribution of veins draining these segments.

The portal triad

The common bile duct, hepatic artery and hepatic portal vein form the portal triad, which are the vital inflows and outflows for this liver.

Digestion

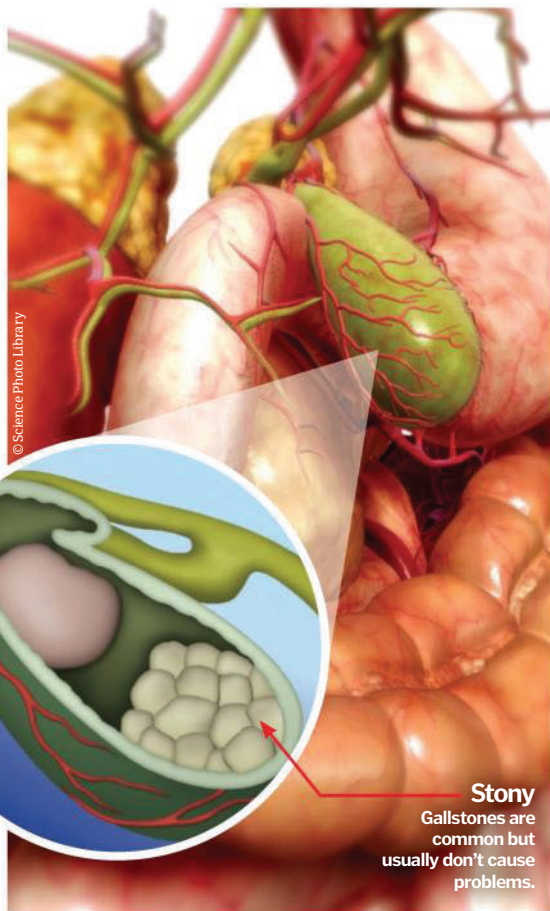
Once nutrients from food have been absorbed in the small intestine, they are transported to the liver via the hepatic portal vein (not shown here) for energy production.



"The liver also breaks down old blood cells and recycles hormones such as adrenaline"

hormones such as adrenaline. Numerous essential vitamins and minerals are stored in the liver: vitamins A, D, E and K, iron and copper.

Such a complex organ is also unfortunately prone to diseases. Cancers, infections (hepatitis) and cirrhosis (a form of fibrosis which is often caused by excess alcohol consumption) are just some of those which can affect the liver.



Stony
Gallstones are common but usually don't cause problems.

The gallbladder

Bile, a dark green slimy liquid, is produced in the hepatocytes and helps to digest fat. It is stored in a reservoir which sits on the under-surface of the liver, to be used when needed. This reservoir is called the gallbladder. Stones can form in the gallbladder (gallstones) and are very common, although most don't cause problems. In 2009, just under 60,000 gallbladders were removed from patients within the NHS making it one of the most common operations performed; over 90 per cent of these are removed via keyhole surgery. Most patients do very well without their gallbladder and don't notice any changes at all.

A high demand organ

The liver deals with a massive amount of blood. It is unique because it has two blood supplies. 75 per cent of this comes directly from the intestines (via the hepatic portal vein) which carries nutrients from digestion, which the liver processes and turns into energy. The rest comes from the heart, via the hepatic artery (which

branches from the aorta), carrying oxygen which the liver needs to produce this energy. The blood flows in tiny passages in between the liver cells where the many metabolic functions occur. The blood then leaves the liver via the hepatic veins to flow into the biggest vein in the body – the inferior vena cava.

Liver lobules

The functional unit which performs the liver's tasks

The liver is considered a 'chemical factory,' as it forms large complex molecules from smaller ones brought to it from the gut via the blood stream. The functional unit of the liver is the lobule – these are hexagonal-shaped

structures comprising of blood vessels and sinusoids. Sinusoids are the specialised areas where blood comes into contact with the hepatocytes, where the liver's biological processes take place.

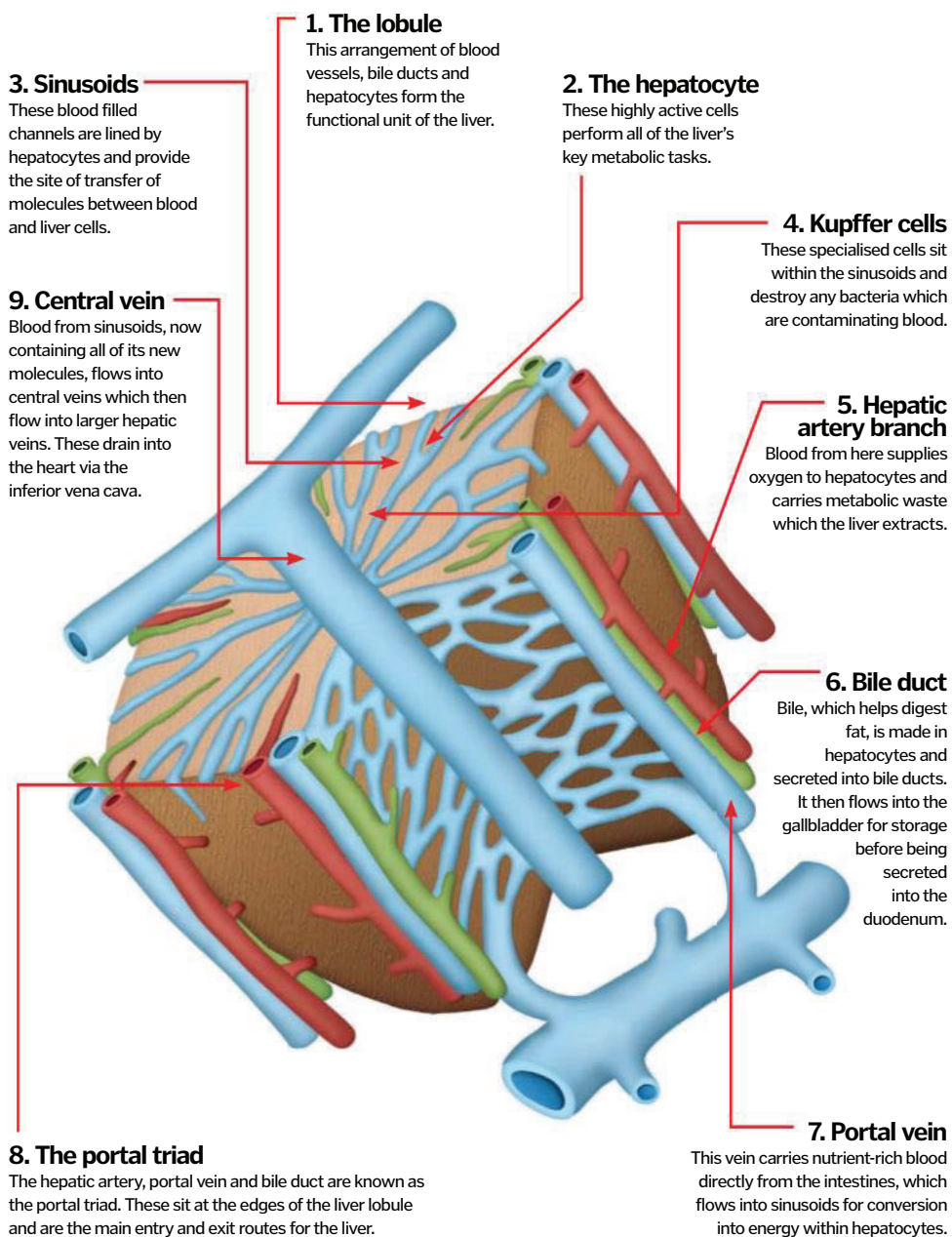
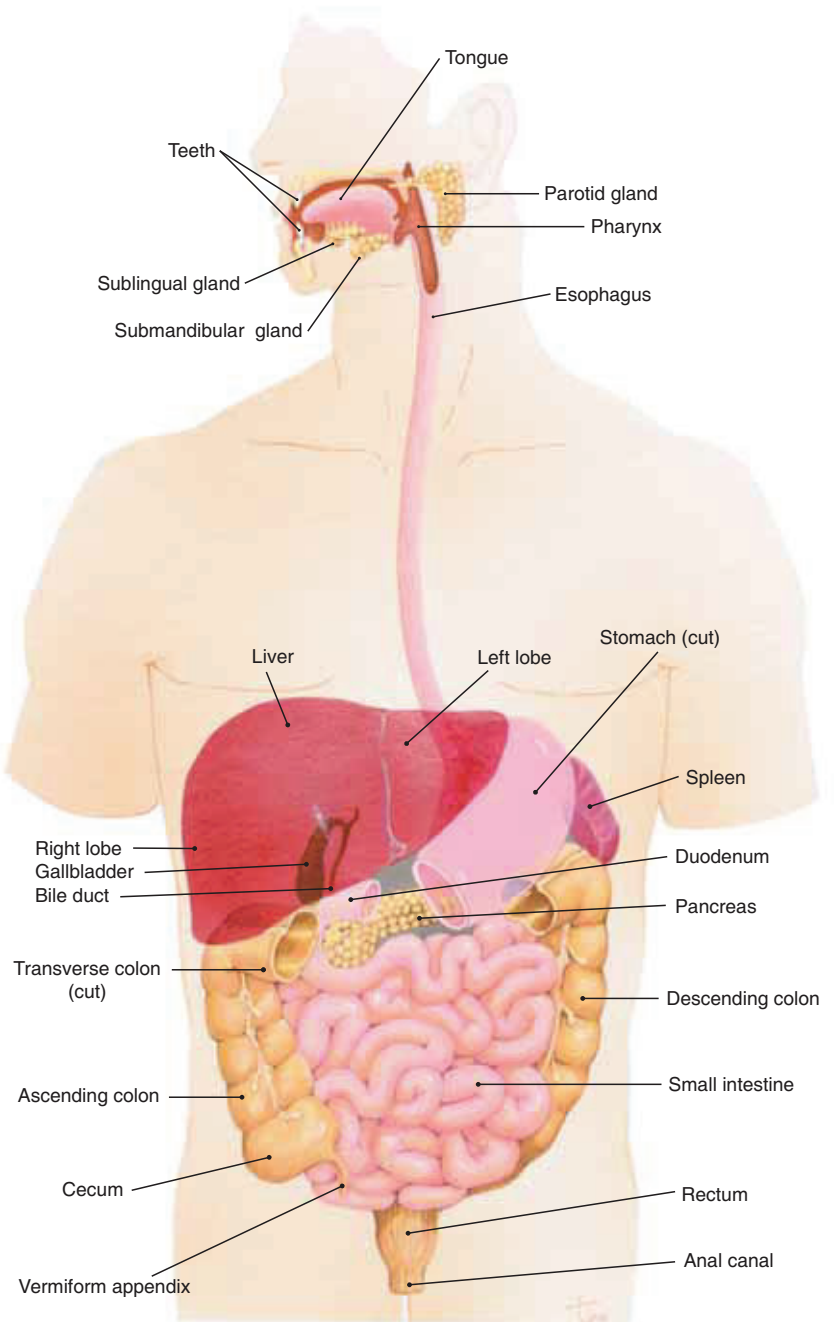


Figure 16–1. The digestive organs shown in anterior view of the trunk and left lateral view of the head. (The spleen is not a digestive organ but is included to show its location relative to the stomach, pancreas, and colon.)

QUESTION: In which parts of the digestive system does digestion actually take place?



Mouth

starts mechanical and chemical digestion of food with the help of teeth, tongue, and saliva

Salivary glands

produces saliva, which helps lubricate food for easier swallowing; contains antibacterial agents and the enzyme amylase, which breaks down starch

Pharynx

entering food triggers its swallowing reflex

Oesophagus

a muscular tube that squeezes food along to the stomach

Stomach

stores, mixes, and digests food with the gastric juice it produces, which consists of mucus, enzymes, and hydrochloric acid, producing acid chyme

Liver

blood carrying nutrients from the small intestine passes through the liver, which filters it and breaks down and synthesizes proteins, breaks down carbohydrates into glucose and glycogen, produces bile

Gallbladder

collects bile from the liver, and discharges it into the small intestines, where it helps digest fat

Pancreas

a gland that produces digestive enzymes and an alkaline solution that neutralizes the acid chyme that comes from the stomach; it also secretes the hormone, insulin

Small intestine

a 6 metre long tube in which most of chemical digestion occurs; nutrients are absorbed from here into the bloodstream

Large intestine

absorbs water from the food wastes that have not been digested in the small intestine; also absorbs some important vitamins that are produced by the large numbers of bacteria it harbours

Rectum

stores feces (which consist mainly of indigestible plant fibres, bacteria, and water) until they can be eliminated from the body through the anus

Waist

Compositae
19. Carduineae



596.
Silphium marianum Gaertner

Mariendistel.



DETOXS
LIVER



HAS ANTIOXIDANT
PROPERTIES



MAY IMPROVE
HEART HEALTH



CAN HELP CONTROL
BLOOD SUGAR



HAS ANTI-AGEING
EFFECT







