

Diet in liver diseases

Claire Constantinou

Gastroenterology dietitian

University Hospital of Wales

What will be covered today

- Dietary principles for liver disease
 - Healthy eating
 - Bone health
- Managing symptoms and side effects
- Special diets, herbal remedies, coffee and are there magic foods!
- Weight loss
- Advanced liver disease
- Who needs to see a dietitian?

Eatwell Guide

Check the label on packaged foods

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

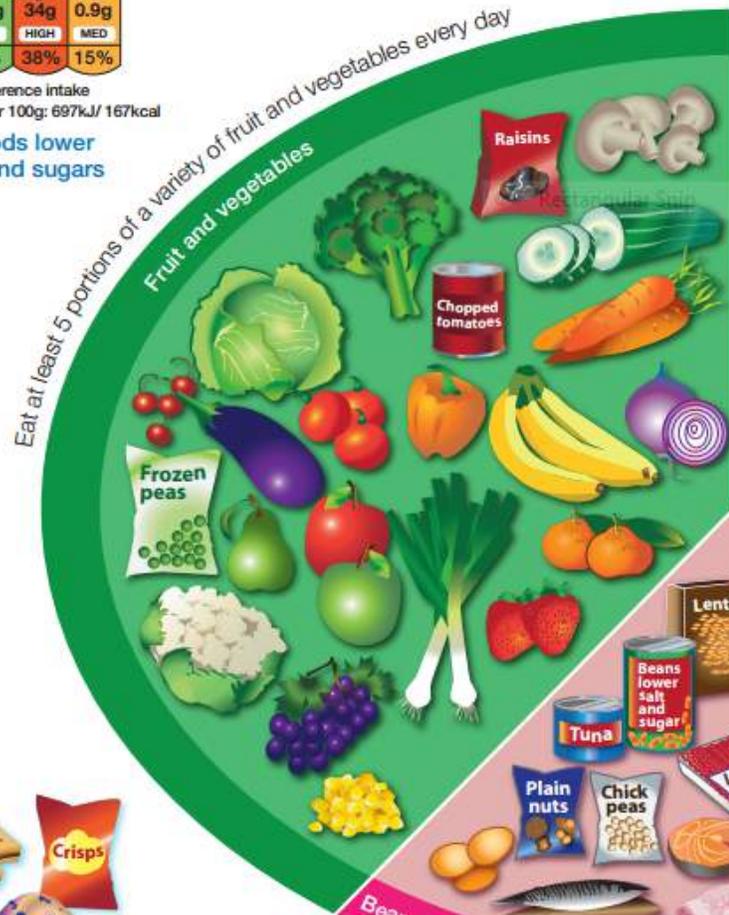
Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.



Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.



Eat at least 5 portions of a variety of fruit and vegetables every day



Choose wholegrain or higher fibre versions with less added fat, salt and sugar



Eat less often and in small amounts



Beans, pulses, fish, eggs, meat and other proteins
Eat more sourced beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat



Dairy and alternatives
Choose lower fat and lower sugar options



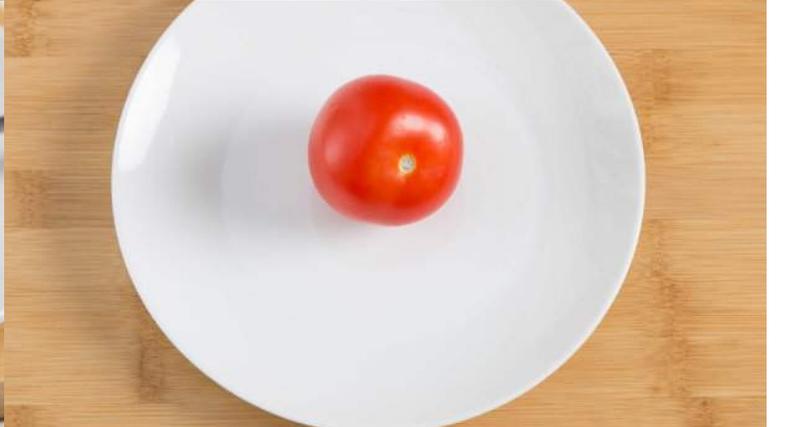
Choose unsaturated oils and use in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

What counts as a portion?

- Fresh only or fresh, canned & frozen?
 - Fresh frozen and canned ✓
- Fruit juice and smoothies?
 - 150ml unsweetened fruit juice/smoothie can account for **1 portion per day** only ✓
- Approximately 80g of fruit or veg, 30g dried fruit







Fruit and vegetables

Five or more portions a day for men and women

One portion is

Grapes
One handful



Cherries
Nine



Okra
Nine



Pear
One whole



<https://www.bhf.org.uk/informationsupport/publications/healthy-eating-and-drinking/portion-info/fruit-and-vegetables>



Pineapple
One slice (fingertip thick)



Fruit juice
One small glass (150ml)
(no more than one a day)



Grapefruit
Half



Salad
Two heaped handfuls or 80g



Eatwell Guide

Check the label on packaged foods

Each serving (150g) contains

Energy 1048kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

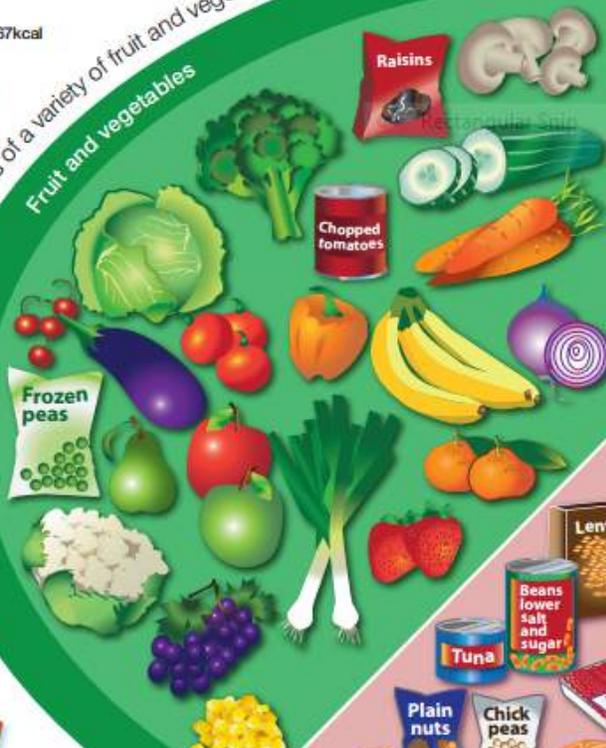


Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables



Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates



Beans, pulses, fish, eggs, meat and other proteins

Eat more sourced beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat



Dairy and alternatives

Choose lower fat and lower sugar options



Choose unsaturated oils and use in small amounts



Eat less often and in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

What counts as a portion?

- How many portions of starchy foods per day should we be aiming for?
 - Men
 - Women

Cooked pasta
Two tablespoons or...



Brown bread or toast
One slice of medium sliced



Potato
One fist-size



Crackers
Three



Weetabix
One





Potatoes, bread, rice, pasta and other starchy foods

Eight portions a day for men, seven portions a day for women

One portion is

Brown roll
One small



Cooked pasta
Two tablespoons or...



Uncooked pasta
One handful



Pitta bread (brown)
Half



<https://www.bhf.org.uk/information-support/publications/healthy-eating-and-drinking/portion-info/potatoes-bread-rice-pasta-and-other-starchy-foods>



Potato
One fist-size



Egg noodles
Half a pack



Brown bread or toast
One slice of medium sliced



Crackers
Three



Eatwell Guide

Check the label on packaged foods

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

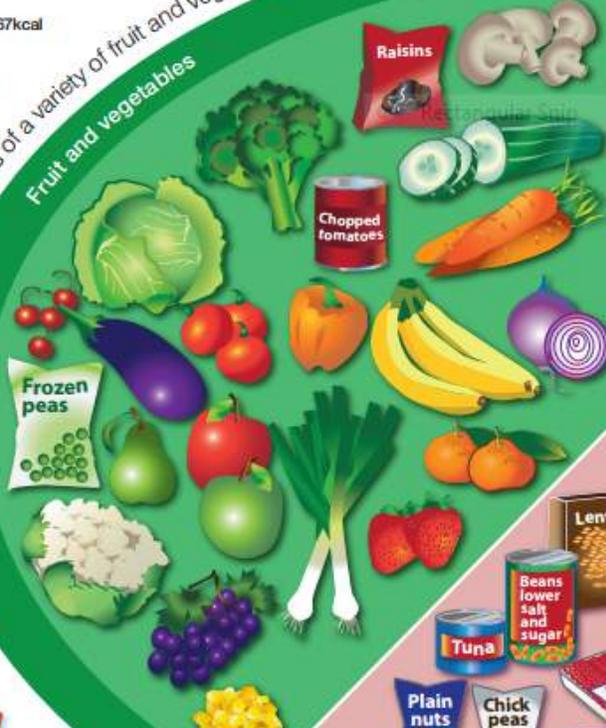


Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables



Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates



Beans, pulses, fish, eggs, meat and other proteins

Eat more sourced beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat



Dairy and alternatives

Choose lower fat and lower sugar options



Choose unsaturated oils and use in small amounts



Eat less often and in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

Bone Health

- Calcium and vitamin D
- Increased risk of bone diseases in chronic liver disease
- ~30%-55% of patients with liver disease will suffer from osteoporosis
 - In PSC risk greater if >54 years old, lower body weight, and IBD
 - Patients at higher risk of bone disease daily vitamin D and calcium supplement if daily calcium intake insufficient
 - In AIH – less data, greater risk if longer term use of steroids, > 50 years old, low body weight, degree of fibrosis.
 - Recommendation for calcium supplementation if dietary intake insufficient.
- UK recommendation for Calcium intake is 700mg-1000mg per day.

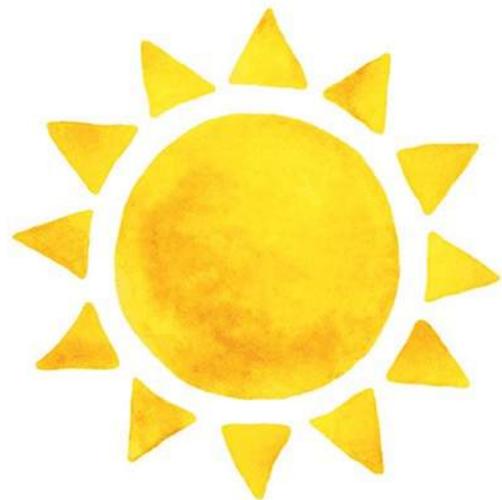


How to get 700-1000mg Calcium per day

- Roughly 3 portions of dairy foods
 - 200ml milk
 - 150g yoghurt
 - 30g cheese
- Dairy free?
 - Choose calcium fortified dairy substitutes
 - Soya/almond/oat milk
 - Soya yoghurts



What else can we do to help our bones?



Eatwell Guide

Check the label on packaged foods

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

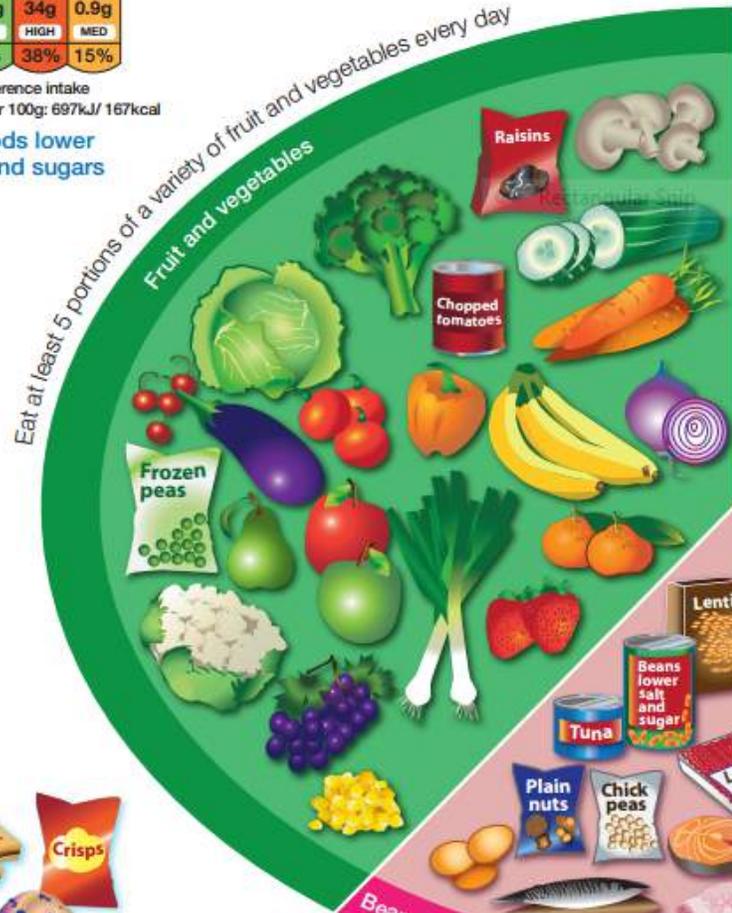
Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.



Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.



Eat at least 5 portions of a variety of fruit and vegetables every day



Choose wholegrain or higher fibre versions with less added fat, salt and sugar



Eat less often and in small amounts



Beans, pulses, fish, eggs, meat and other proteins
Eat more sourced beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat



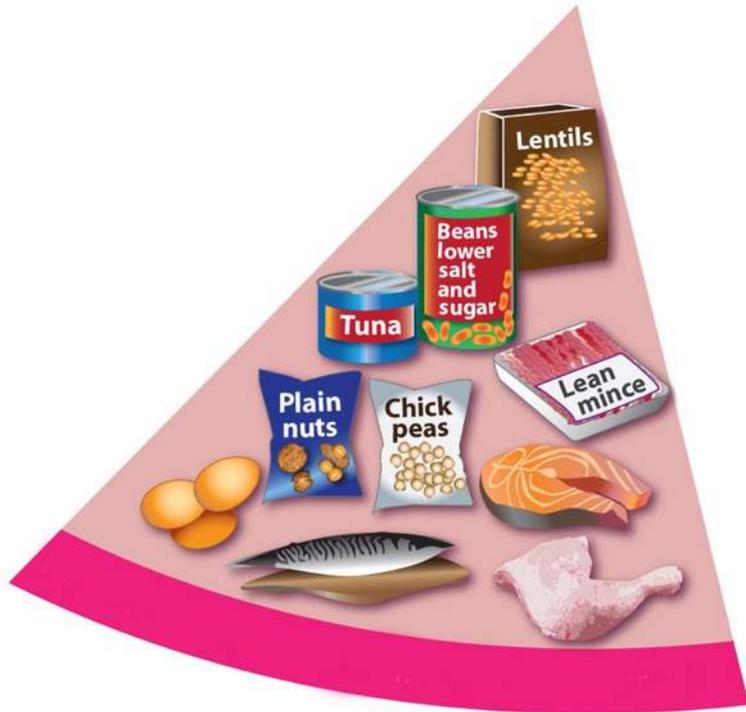
Dairy and alternatives
Choose lower fat and lower sugar options

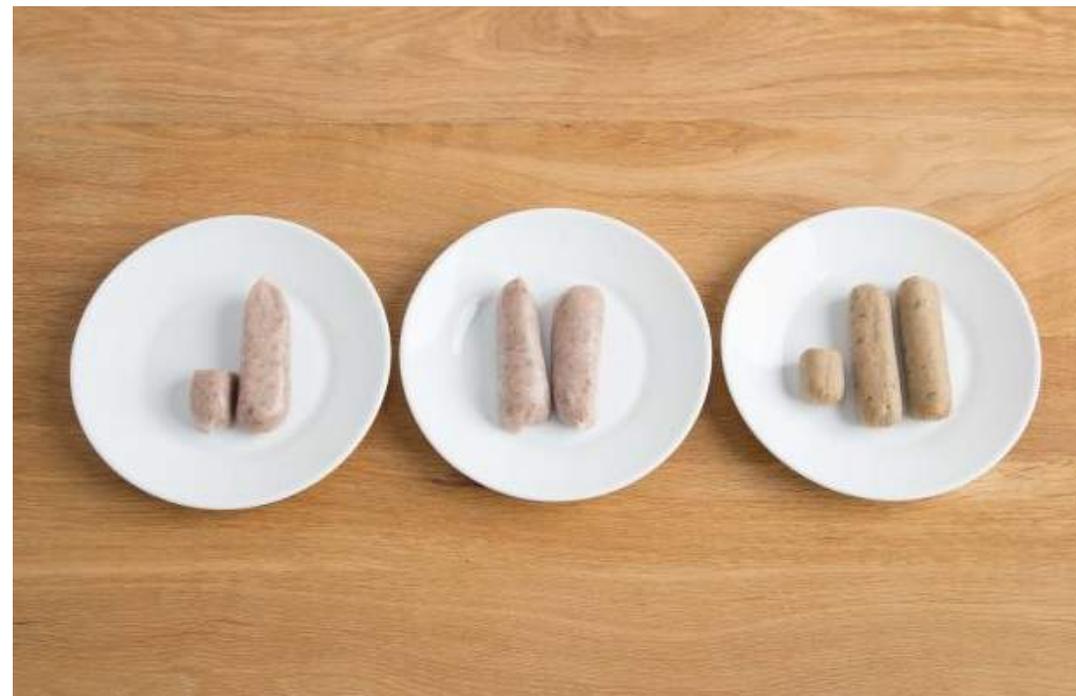


Oil & spreads
Choose unsaturated oils and use in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

Beans, pulses, fish, eggs, meat and other proteins





Eatwell Guide

Check the label on packaged foods

Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

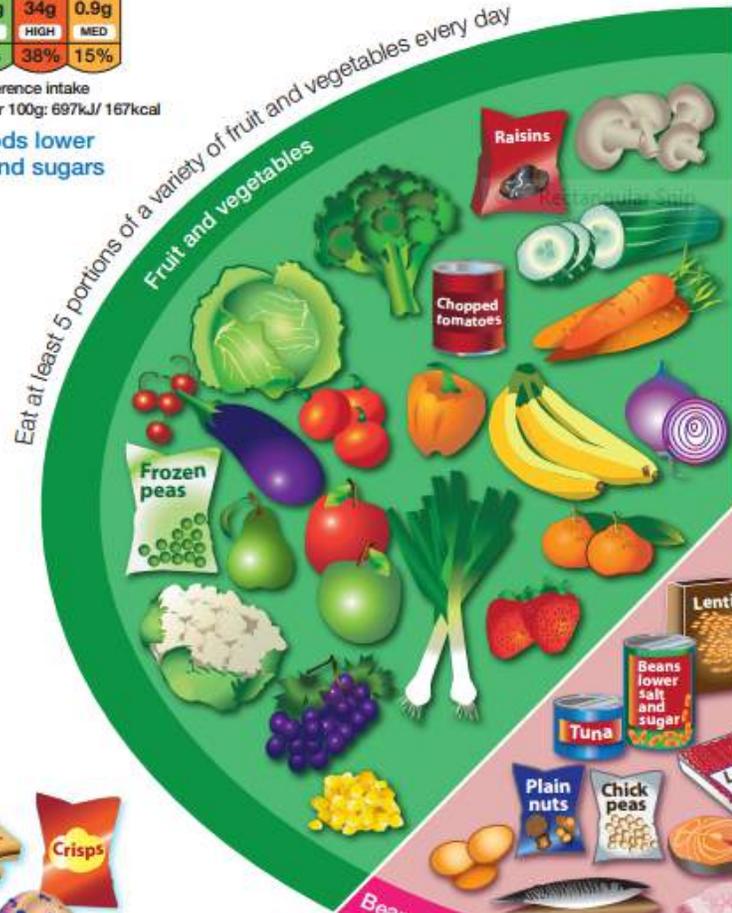
Choose foods lower in fat, salt and sugars

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.



Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.



Eat at least 5 portions of a variety of fruit and vegetables every day



Choose wholegrain or higher fibre versions with less added fat, salt and sugar



Eat less often and in small amounts



Beans, pulses, fish, eggs, meat and other proteins
Eat more sourced beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat



Dairy and alternatives
Choose lower fat and lower sugar options



Oil & spreads
Choose unsaturated oils and use in small amounts

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

Tips for eating well if you're feeling sick

- Eat small, regular meals.
- Try to eat plain foods.
- Drink plenty of fluids, sipping through a straw may help.
- Freshen up your mouth before meals.
- Try cold foods.
- Relax, take time and be comfortable when eating
- Try having some fresh air prior to meals.
- Ginger
- Discuss with your doctor or specialist nurse to see if anti-sickness medication may be useful.

Ginger

Efficacy of ginger for nausea and vomiting: a systematic review of randomized clinical trials

E. Ernst* and M. H. Pittler

Department of Complementary Medicine, School of Postgraduate Medicine and Health Sciences, University of Exeter, 25 Victoria Park Road, Exeter EX2 4NT, UK

**Corresponding author*

Ginger (*Zingiber officinale*) is often advocated as beneficial for nausea and vomiting. Whether the herb is truly efficacious for this condition is, however, still a matter of debate. We have performed a systematic review of the evidence from randomized controlled trials for or against the efficacy of ginger for nausea and vomiting. Six studies met all inclusion criteria and were reviewed. Three on postoperative nausea and vomiting were identified and two of these suggested that ginger was superior to placebo and equally effective as metoclopramide. The pooled absolute risk reduction for the incidence of postoperative nausea, however, indicated a non-significant difference between the ginger and placebo groups for ginger 1 g taken before operation (absolute risk reduction 0.052 (95% confidence interval -0.082 to 0.186)). One study was found for each of the following conditions: seasickness, morning sickness and chemotherapy-induced nausea. These studies collectively favoured ginger over placebo.

Br J Anaesth 2000; **84**: 367-71

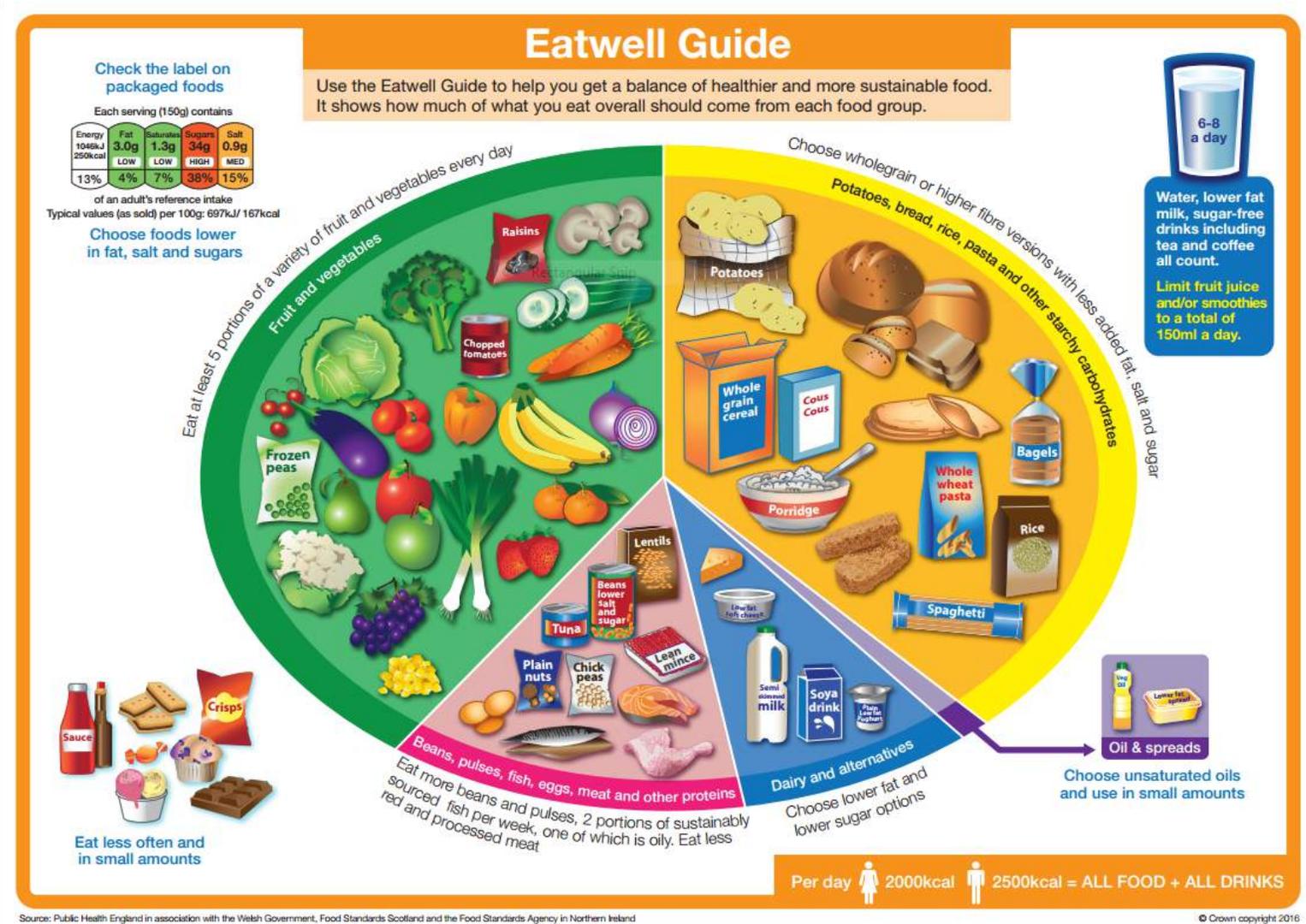
Keywords: pharmacology, ginger; vomiting, nausea; vomiting, incidence; research, emesis; clinical trials

Accepted for publication: September 1, 1999



Fatigue – can diet help?

- Protein foods
- Carbohydrates
- Vitamin D
- Iron/B12/Folate
- Hydration



Dietary myths



With every order you place, you will receive the **FREE** eBook "9 everyday foods that silently poison your liver"



PALEO FOR LIVER HEALTH



Ctrl+N

ARTICLES

The 8 Super Foods that Naturally Cleanse Your Liver



14 Best and Worst Foods for Your Liver



Keto: The Best Fatty Liver Diet

DIGESTIVE SYSTEM What Foods Cleanse Your Liver?

June 12, 2018 | Fisher-Titus Healthy Living Team



Updated Sep 18th, 2019 - Written by Craig Clarke

The liver is the organ that filters... responsible for filtering... you take...

PREVIL

11 NATURAL SUPPLEMENTS FOR HEALTHY LIVER FUNCTION

But w... many... cleans... the liver's natural ability to expel toxins from the body.

Here are 10 foods you can add to your diet to cleanse your liver.

What is the best kept secret in detoxing?

The best kept detox secret?

Your

liver + kidneys



They're all you need.

ASK FOR EVIDENCE  Supported by **wellcome**trust **BDA** The Association of UK Dietitians

AskforEvidence.org

Which one of these is
a superfood?



Which one of these is a superfood?



None of the above.
They're all good for you, but superfood is just a marketing term,
not a scientific one.

**ASK FOR
EVIDENCE** 

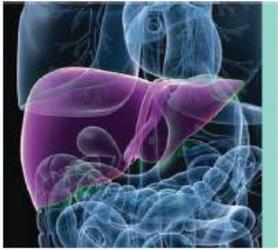
Supported by
wellcome trust

BDA

The Association
of UK Dietitians

Natural does not equal safe

REVIEW



Liver Injury Due to Herbal and Dietary Supplements: A Review of Individual Ingredients

Elizabeth Zheng, M.D., and Victor Navarro,

Diagnosing liver injury caused by herbal and dietary supplements (HDS) and establishing causality is challenging. These topics are discussed and reviewed in an accompanying article within this current publication. In this review, we focus on dietary supplement ingredients that have hepatotoxic potential (Table 1).

SUSPECTED TO AND DIETARY

Black Cohosh

An herbal remec
mosa, black cohos
pausal symptoms

HEPATOLOGY



REVIEW | HEPATOLOGY, VOL. 00, NO. 00, 2016

Liver Injury From Herbal and Dietary Supplements

Victor J. Navarro,¹ Ikhlas Khan,² Einar Björnsson,³ Leonard B. Seeff,¹ Jose Serrano,⁴ and Jay H. Hoofnagle⁴

Herbal and dietary supplements (HDS) are used increasingly both in the United States and worldwide, and HDS-induced liver injury in the United States has increased proportionally. Current challenges in the diagnosis and management of HDS-induced liver injury were the focus of a 2-day research symposium sponsored by the American Association for the Study of Liver Disease and the National Institutes of Health. HDS-induced liver injury now accounts for 20% of cases of hepatotoxicity in the United States based on research data. The major implicated agents include anabolic steroids, green tea extract, and multi-ingredient nutritional supplements. Anabolic steroids marketed as bodybuilding supplements typically induce a prolonged cholestatic but ultimately self-limiting liver injury that has a distinctive serum biochemical as well as

Coffee?



What about side effects?



Take away message - Coffee



Coffee consumption and the liver – the potential health benefits

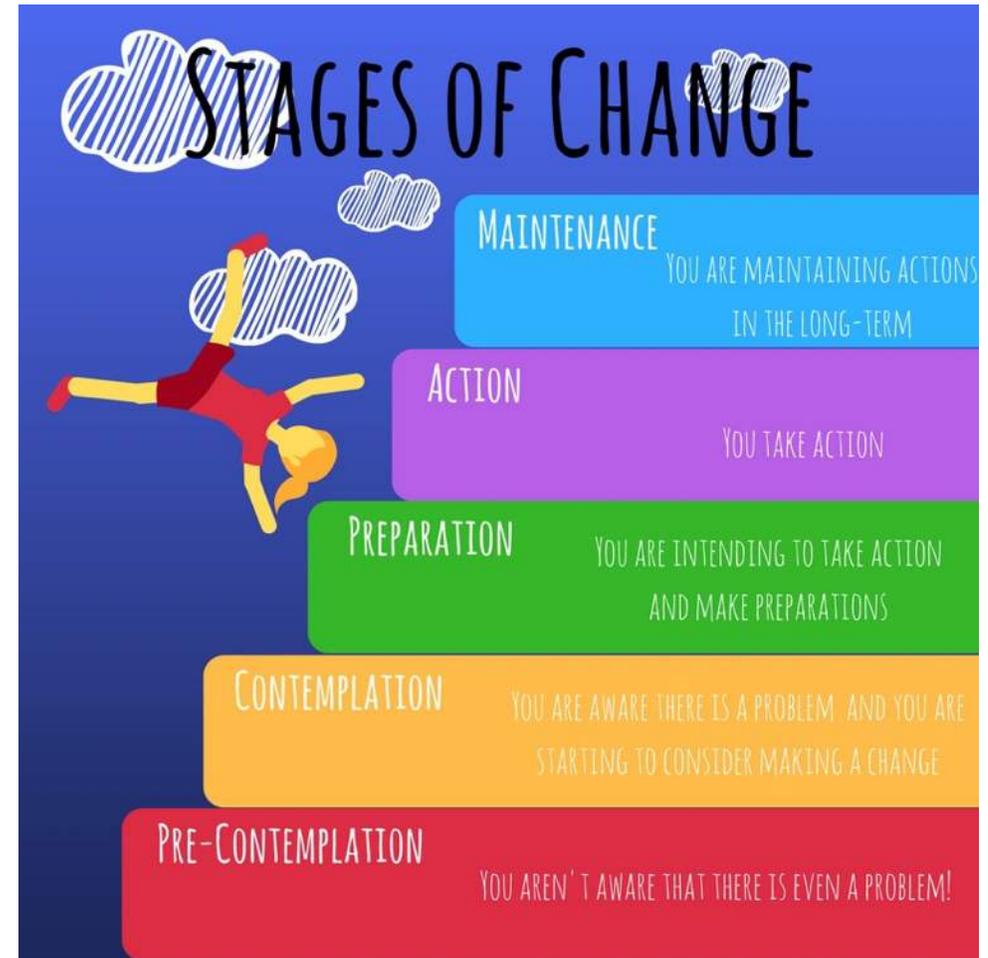
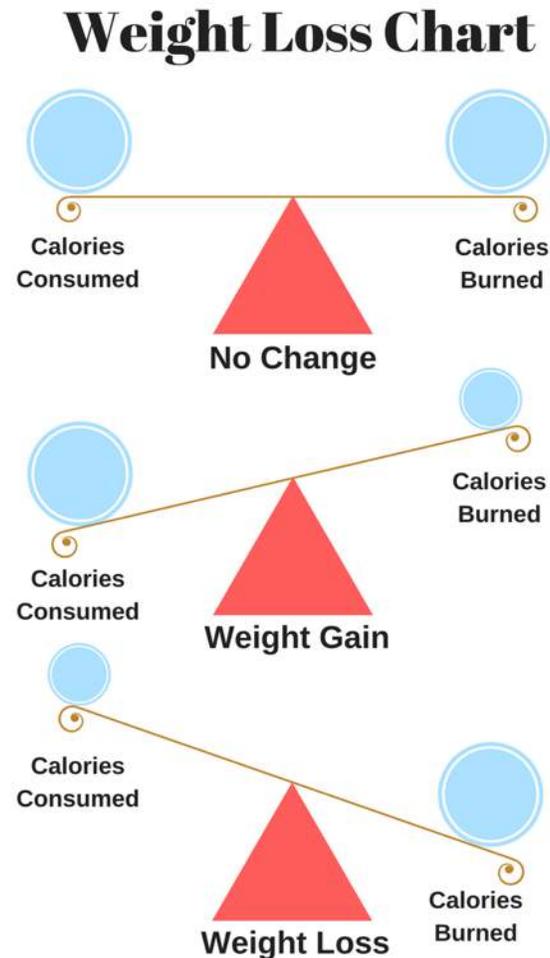
A British Liver Trust report, June 2016



Pioneering Liver Health

The cover of a report titled "ROUNDTABLE REPORT: Looking after the liver: lifestyle, coffee and caffeine". At the top left is a coffee bean icon next to the text "coffee&health" and "from the institute for scientific information on coffee". Below this is a blue banner with the title "ROUNDTABLE REPORT" and subtitle "Looking after the liver: lifestyle, coffee and caffeine". Underneath the banner, it says "Hosted by the Institute for Scientific Information on Coffee in association with the British Liver Trust." The bottom half of the cover features a photograph of an elderly man and woman sitting at a table, both holding white coffee cups and looking at each other.

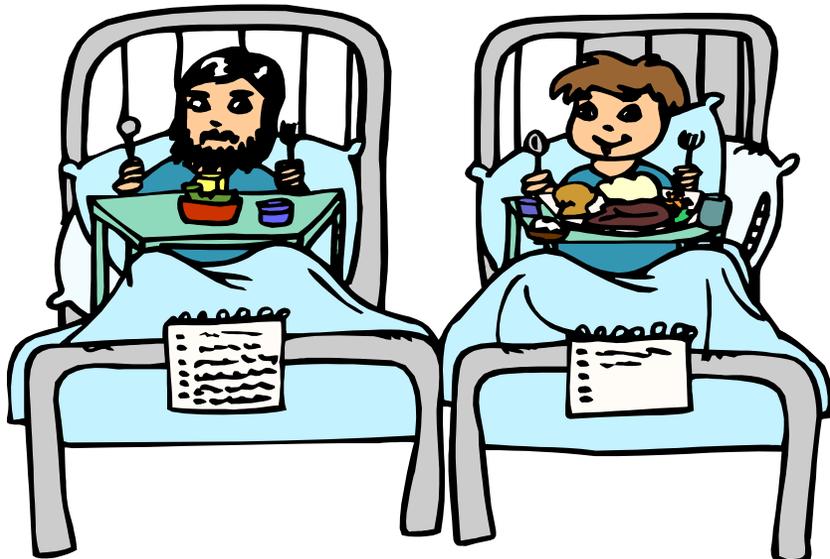
Struggling to lose weight?



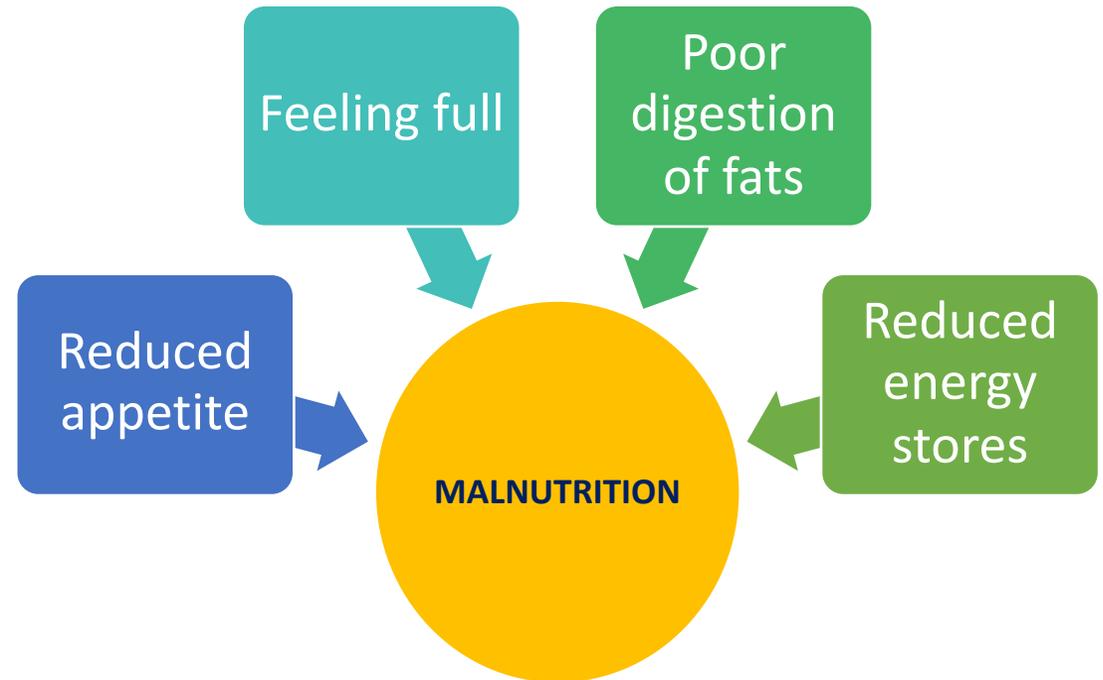
- ✓ Be realistic
- ✓ Avoid crash-dieting / fad diets / cleanses, detoxes
- ✓ If you're struggling – ask to see a dietitian

Advanced liver disease

- Changes in dietary advice
- Weight loss and loss of muscle stores
- Body energy stores
- Who is malnourished?



Why does malnutrition develop?



Key messages:



**Eat Regularly,
aim for every
2-3 hours**



**50g Carbohydrate
bedtime snack**



**3-4 portions
per day**

What to do if you feel you are losing weight

- Little and often
- Pick nutrient dense foods
 - High calorie
 - High protein
 - Don't fill up on low calorie choices e.g. fruit and vegetables!
- Snacks and nourishing drinks
 - Water only hydrates, milk hydrates and provides energy and protein
- Nutritional supplement drinks
 - Over the counter e.g. complan, meritene
 - Prescribable nutritional supplement drinks
- Dietitian

Summary

- No specific diets for PSC or AIH currently
- Dietary advice depends on stage of liver disease
- Early stages of conditions
 - Healthy eating and exercise, Eat a rainbow!
 - Aim for a healthy body weight
 - Look after your bones
 - Avoid herbal and dietary supplements
 - Coffee in moderate amounts may be helpful

Summary

- As disease progresses
 - Regular meals, nourishing drinks including bedtime 'snack'
 - Focus on high energy and high protein
 - Reduce intake or lower calorie/protein foods
 - Possibly nutritional supplementation
- Who should see a dietitian?
 - Uncontrolled weight loss
 - Low body weight
 - Support with losing weight
 - Any other specialised diets that may need to be adapted or tailored to suit conditions

Resources and references used

- British Association of Dermatologists et al. (2010). [https://www.nhs.uk/livewell/summerhealth/documents/concensus_statement%20 vitd dec 2010.pdf](https://www.nhs.uk/livewell/summerhealth/documents/concensus_statement%20vitd_dec_2010.pdf)
- British Liver Trust (2016) Coffee consumption and the liver – the potential health benefits. <https://britishlivertrust.org.uk/information-and-support/living-with-a-liver-condition/diet-and-liver-disease/coffee-and-the-liver/>
- Chapman, M. H., Thorburn, D., Hirschfield, G. M., Webster, G. G., Rushbrook, S. M., Alexander, G., ... & Thain, C. (2019). British Society of Gastroenterology and UK-PSC guidelines for the diagnosis and management of primary sclerosing cholangitis. *Gut*, 68(8), 1356-1378.
- Ernst, E., and M. H. Pittler. "Efficacy of ginger for nausea and vomiting: a systematic review of randomized clinical trials." *British journal of anaesthesia* 84, no. 3 (2000): 367-371.
- European Association For The Study Of The Liver. (2009). EASL Clinical Practice Guidelines: management of cholestatic liver diseases. *Journal of hepatology*, 51(2), 237-267.
- Gleeson, D., & Heneghan, M. A. (2011). British Society of Gastroenterology (BSG) guidelines for management of autoimmune hepatitis. *Gut*, 60(12), 1611-1629.
- Handzlik-Orlik, Gabriela, Michał Holecki, Krzysztof Wilczyński, and Jan Duława. "Osteoporosis in liver disease: pathogenesis and management." *Therapeutic advances in endocrinology and metabolism* 7, no. 3 (2016): 128-135.
- Lohse, A. W., Chazouilleres, O., Dalekos, G., Drenth, J., Heneghan, M., Hofer, H., ... & Lenzi, M. (2015). EASL clinical practice guidelines: autoimmune hepatitis. *J Hepatol*, 63(4), 971-1004.
- Navarro, Victor J., Ikhlas Khan, Einar Björnsson, Leonard B. Seeff, Jose Serrano, and Jay H. Hoofnagle. "Liver injury from herbal and dietary supplements." *Hepatology* 65, no. 1 (2017): 363-373.
- Schmidt, Tobias, Constantin Schmidt, Andre Strahl, Haider Mussawy, Tim Rolvien, Nico M. Jandl, Christian Casar et al. "A System to Determine Risk of Osteoporosis in Patients With Autoimmune Hepatitis." *Clinical Gastroenterology and Hepatology* 18, no. 1 (2020): 226-233.
- Zheng, E., & Navarro, V. (2016). Liver injury due to herbal and dietary supplements: A review of individual ingredients. *Clinical liver disease*, 7(4), 80.