

<sup>7</sup>  
Name of Journal: *World Journal of Gastroenterology*

Manuscript NO: 48011

Manuscript Type: OPINION REVIEW

Importance of fatigue and its measurement in chronic liver disease

Gerber LH *et al.* Fatigue and chronic liver disease

Lynn H Gerber, Ali A Weinstein, Rohini Mehta, Zobair M Younossi

#### Abstract

The mechanisms of fatigue in the group of people with <sup>16</sup>non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) are protean. The liver is central in the pathogenesis of fatigue because it uniquely regulates much of the storage, release and production of substrate for energy generation. It is exquisitely sensitive to the feedback controlling the uptake and release of these energy generation substrates. Metabolic contributors to fatigue, beginning with the uptake of substrate from the gut, the passage through the portal system to hepatic storage and release of energy to target organs (muscle and brain) are central to understanding fatigue in patients with chronic liver disease (CLD). Inflammation either causing or resulting from CLD contributes to fatigue, although inflammation has not been demonstrated to be causal. It is this unique combination of factors, the nexus of metabolic abnormality and the inflammatory burden of NAFLD/NASH that creates pathways to different types of fatigue. Many use the terms <sup>6</sup>central and peripheral fatigue. Peripheral fatigue is classically manifested by

#### Match Overview

1	Internet 78 words crawled on 18-Jan-2019 <a href="http://link.springer.com">link.springer.com</a>	1%
2	Internet 54 words crawled on 16-Jul-2017 <a href="http://repository.ubn.ru.nl">repository.ubn.ru.nl</a>	1%
3	Crossref 42 words Mark G Swain, David E J Jones. "Fatigue in chronic liver disease: New insights and therapeutic approaches", <i>Live</i>	1%
4	Crossref 36 words Anca D. Petrescu, Jessica Kain, Victoria Liere, Trace Heavener, Sharon DeMorrow. "Hypothalamus-Pituitary-Adrenal Axis and Fatigue in Chronic Liver Disease", <i>Journal of Clinical Endocrinology and Metabolism</i>	1%
5	Internet 28 words crawled on 23-Nov-2018 <a href="http://www.ncbi.nlm.nih.gov">www.ncbi.nlm.nih.gov</a>	<1%
6	Internet 28 words crawled on 30-Apr-2016 <a href="http://hepatitisnewdrugs.blogspot.com.es">hepatitisnewdrugs.blogspot.com.es</a>	<1%
7	Internet 28 words crawled on 02-Apr-2019 <a href="http://f6publishing.blob.core.windows.net">f6publishing.blob.core.windows.net</a>	<1%
8	Internet 27 words crawled on 28-Jul-2017 <a href="http://linknovate.com">linknovate.com</a>	<1%
9	Crossref 21 words Hirokazu Takahashi, Kazuhiko Kotani, Kenichi Tanaka, Yujiro Eguchi, Keizo Anzai. "Therapeutic Approaches to Fatigue in Chronic Liver Disease", <i>Journal of Clinical Endocrinology and Metabolism</i>	<1%
10	Internet 20 words crawled on 04-Jun-2019 <a href="http://www.jmir.org">www.jmir.org</a>	<1%
11	Internet 18 words crawled on 02-Apr-2015 <a href="http://www.researchgate.net">www.researchgate.net</a>	<1%



找到约 23,300,000 条结果 (用时 0.50 秒)

## Google 学术: The Importance of Fatigue and its Measurement in Chronic Liver Disease

Impact of **fatigue** on the quality of life of patients with ... - Huet - 被引用次数: 239

... of a **fatigue** impact score in primary biliary **cirrhosis**: ... - Prince - 被引用次数: 133

... quality of life in patients with **chronic liver disease** - Younossi - 被引用次数: 558

### Fatigue in liver disease: Pathophysiology and clinical management

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2582971/> - 翻译此页

作者: MG Swain - 2006 - 被引用次数: 78 - 相关文章

**Fatigue** is the most commonly encountered symptom in patients with **liver disease**, and it has a significant impact on **their** quality of life. ... Specifically, experimental findings suggest that **fatigue** associated with **liver disease** likely occurs as a result of changes in neurotransmission within the brain.

### Fatigue in liver disease: pathophysiology and clinical management.

<https://www.ncbi.nlm.nih.gov/pubmed/16550262> - 翻译此页

作者: MG Swain - 2006 - 被引用次数: 79 - 相关文章

**Fatigue** is the most commonly encountered symptom in patients with **liver disease**, and it has a significant impact on **their** quality of life. ... Specifically, experimental findings suggest that **fatigue** associated with **liver disease** likely occurs as a result of changes in neurotransmission within the brain.

### The Physiology of Fatigue in Patients With Chronic Liver Disease - Full ...

<https://clinicaltrials.gov/ct2/show/NCT01867385> - 翻译此页

Background: - **Fatigue** is a common and often disabling symptom in people with **chronic liver disease**. **Its** causes are not well understood. Sleep disturbance may play **a role** in people with **cirrhosis**, but these factors have not been studied in people with other stages of **liver disease**.

### Etiology and prevalence of fatigue in chronic liver disease: clinical ...

[www.esim.eg.net/article.asp?issn=1110-7782;year=2016;volume...](http://www.esim.eg.net/article.asp?issn=1110-7782;year=2016;volume...) - 翻译此页

作者: ZA Salama - 2016 - 被引用次数: 2 - 相关文章

We included (a) patients with **chronic liver disease** due to HCV or HBV (b) between ... Higher scores are considerable merit as a **measure** of patient's attribution of ... used to assess the level of **fatigue** in patients and to monitor **its** change over time .... **The importance** of determining the health-related QoL has gained quite a ...

### Factors Related to Fatigue in Patients With Cirrhosis Before and After ...

[https://www.cghjournal.org/article/S1542-3565\(11\)00811-1/pdf](https://www.cghjournal.org/article/S1542-3565(11)00811-1/pdf) - 翻译此页

作者: E Kalaitzakis - 2012 - 被引用次数: 35 - 相关文章

crosis factor- were **measured** in a subgroup of 80 patients. Transplant recipients ... **Fatigue** is considered to be common in **chronic liver disease**. Although there are ... study **its** potential relation to HRQL as well as to assess the effect of liver ..... MELD score.45. Ascites and **hepatic** encephalopathy are known to be **important**.

### Fatigue in Cirrhosis - Clinical Gastroenterology and Hepatology

[www.cghjournal.org/article/S1542-3565\(11\)01165-7/pdf](http://www.cghjournal.org/article/S1542-3565(11)01165-7/pdf) - 翻译此页

作者: L Stinton - 2012 - 被引用次数: 3 - 相关文章

However, because of difficulties in **measuring** and treating **fatigue**, it is often mini- ... more **severe**





国内版

国际版

Importance of fatigue and its measurement in chronic liver disease



Sign in



All

Images

Videos

翻译成中文

关闭取词

1,530,000 Results

Any time ▼

## Liver Disease And Chronic Fatigue | Things Health

<https://thingshealth.com/liver-disease-and-chronic-fatigue> ▼

**Liver Disease And Chronic Fatigue.** Individuals struggling with a **liver disease** can also have eating **disorders**, connected with rapid lack of weight, excessive drinking of water, and frequent urination. Reduced use of food may lead to anemia or serious weakness. In general, the usual signs of **liver failure**, that might show in the beginning,...

## Fatigue in chronic liver disease: New insights and ...

<https://onlinelibrary.wiley.com/doi/full/10.1111/liv.13919>

Jun 23, 2018 · Currently, the **management of fatigue in chronic liver disease** can involve a combined use of methods to beneficially alter behavioural components and pharmacological interventions, of which several treatments have **potential for the improved management of fatigue in chronic liver disease**.

**Cited by:** 1

**Author:** Mark G. Swain, David E. J. Jones

**Publish Year:** 2019

## Liver Disease & Fatigue – Gastrointestinal Society

<https://badgut.org/information-centre/a-z-digestive-topics/liver-disease-fatigue> ▼

**Fatigue** is a symptom commonly described by people with **liver disease** (hepatitis), regardless of whether the **hepatitis** is **caused** by a virus, excess alcohol or fat consumption, or an inherited **disease**. The associated **fatigue** may be intermittent or constant, mild or debilitating. There is no relationship between the **severity** of **liver disease** and the **severity** of the **fatigue**. Those with **minimal liver disease** ...

## Fatigue in liver disease: Pathophysiology and clinical ...

## Liver diseases

A condition that impairs liver function.

Drugs

## People also search for

Cirrhosis

Fatty liver

Alcoholic liver disease

Non-alcoholic fatty liver disease

Hypersalivation

See more ▼

Consult a medical professional for advice.

Data from: Focus Medica

Suggest an edit



国内版 国际版

Importance of fatigue and its measurement in chronic liver disease



All

Images

Videos

翻译成中文

关闭取词

2,020,000 Results

Any time ▾

## Fatigue in chronic liver disease: New insights and ...

<https://onlinelibrary.wiley.com/doi/full/10.1111/liv.13919>

Jun 23, 2018 · Currently, the management of **fatigue in chronic liver disease** can involve a combined use of methods to beneficially alter behavioural components and pharmacological interventions, of which several treatments have potential for the improved management of **fatigue in chronic liver disease**.

Cited by: 1

Author: Mark G. Swain, David E. J. Jones

Publish Year: 2019

## Fatigue in liver disease: Pathophysiology and clinical ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2582971>

Aug 22, 2005 · **Fatigue** is the most common symptom reported by patients with **liver disease**. Although the underlying **pathogenesis of fatigue in liver disease** is still poorly defined, it appears to involve changes in central neurotransmission, which result from signalling between the **diseased liver and ...**

Cited by: 100

Author: Mark G Swain

Publish Year: 2006

## Elevated Liver Enzymes & Fatigue | Livestrong.com

<https://www.livestrong.com/article/545154-elevated-liver-enzymes-fatigue> ▾

**Fatigue** is often accompanied by a desire to sleep, as well as a **lack** of motivation to do anything else.

**Fatigue** can be a **symptom** of several health conditions including **liver disease**. Elevated levels of **liver enzymes**, such as alanine transaminase and aspartate transaminase, can indicate inflammation or damage to your **liver** cells.

## [PDF] Fatigue and Disease Trajectories in Chronic Liver Disease ...

[https://conservancy.umn.edu/bitstream/handle/11299/96587/Jorgensen\\_umn\\_0130E\\_11356.pdf?...](https://conservancy.umn.edu/bitstream/handle/11299/96587/Jorgensen_umn_0130E_11356.pdf?...)

systemic lupus erythematosus, or central in origin (Swain, 2000). **Fatigue in cholestatic liver disease** is considered to be central rather than peripheral in origin with a number of potential **causes** proposed. Theories developed to explain central **fatigue in chronic disease** include the **stress** response related to the psychological impact of chronic

## The Physiology of Fatigue in Patients With Chronic Liver ...

<https://clinicaltrials.gov/ct2/show/NCT01867385> ▾

Jun 04, 2013 · The **Physiology of Fatigue in Patients With Chronic Liver Disease**. They will record any