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**Learning curves in minimally invasive esophagectomy**

van Workum F *et al.* Learning curves in MIE

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#### **Abstract**

Surgical innovation and pioneering are important for improving patient outcome, but can be associated with learning curves. Although learning curves in surgery are a recognized problem, the impact of surgical learning curves is increasing, due to increasing complexity of innovative surgical procedures, the rapid rate at which new interventions are implemented and a decrease in relative effectiveness of new interventions compared to old interventions. For minimally invasive esophagectomy (MIE), there is now robust evidence that implementation can lead to significant learning associated morbidity (morbidity during a learning curve, that could have been avoided if patients were operated by surgeons that have completed the learning curve). This article provides an overview of the evidence of the impact of learning curves after implementation of MIE. In addition, caveats for implementation and available evidence regarding factors that are important for safe implementation and safe pioneering of MIE are discussed.

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作者: F van Workum - 2017 - 被引用次数: 5 - 相关文章

2017年8月29日 - OBJECTIVE: To investigate the morbidity that is associated with the **learning curve** of **minimally invasive esophagectomy**. BACKGROUND: Although **learning curves** have been described, it is currently unknown how much extra morbidity is associated with the **learning curve** of technically challenging surgical procedures.

## Learning curves of minimally invasive esophageal cancer surgery.

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作者: SY Song - 2009 - 被引用次数: 56 - 相关文章

2009年1月13日 - **Learning curves** of **minimally invasive** esophageal cancer surgery. ... MIES that contained thoracoscopic **esophagectomy**, **laparoscopic** gastric ...

## Learning curves of minimally invasive esophageal ... - Oxford Journals

<https://academic.oup.com/ejcts/article/35/4/689/368771> - 翻译此页

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作者: PD Lorimer - 2016

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作者: F van Workum - 2017 - 被引用次数: 9 - 相关文章

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作者: F van Workum - 2018 - 被引用次数: 9 - 相关文章

2017年8月29日 - **Learning Curve** and Associated Morbidity of **Minimally Invasive Esophagectomy**: A Retrospective Multicenter Study. van Workum, Frans, MD \* ...

## Learning curves of minimally invasive esophageal ... - Oxford Journals

<https://academic.oup.com/ejcts/article/35/4/689/368771> - 翻译此页

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## Learning curves of minimally invasive esophageal ... - Oxford Journals

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作者: SY Song - 2009 - 被引用次数: 56 - 相关文章

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作者: TJ Severson - 2016 - 被引用次数: 24 - 相关文章

2016年8月7日 - These results are briefly discussed in terms of **clinical** application ... Keywords: **Genetic polymorphisms**, **Non-alcoholic fatty liver disease**, ... HFE, rs1800562, 845G>A, C282Y, Increased hepatic iron uptake, associated **with** greater NAFLD **risk**/ ... The two searches were **combined with** duplicates eliminated, ...

### Genetic and Epigenetic Regulation in Nonalcoholic Fatty Liver Disease

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作者: JA Del Campo - 2018 - 被引用次数: 3 - 相关文章

2018年3月19日 - On the other hand, epigenetic changes interact **with** inherited **risk** factors to ... **Nonalcoholic fatty liver disease** (NAFLD) comprises a progressive ... **non-alcoholic fatty liver diseases** (NAFLD) patients and **clinical** .... Besides PNPLA3 and MBOAT, other **genetic** variants have been described to **promote** NAFLD ...

### Genetic polymorphisms associated with fatty liver disease and fibrosis ...

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作者: L Dold - 2017 - 被引用次数: 3 - 相关文章

2017年6月8日 - Hepatic steatosis can occur **with** any antiretroviral therapy (cART). ... to predispose to alcoholic and **non-alcoholic fatty liver disease**, their role ... disease and fibrosis in HIV positive patients receiving **combined** ... the PNPLA3 **polymorphism** to be a **risk factor** for hepatic steatosis in HIV-infected individuals [4].

缺少字词: **promoting**

### Systematic review of genetic association studies involving ...

<https://bmjopengastro.bmj.com/content/2/1/e000019> - [翻译此页](#)

作者: KL Wood - 2015 - 被引用次数: 10 - 相关文章

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