

# Algorithm for the safe management of an incarcerated inguinal hernia in the emergency setting including Taxis: the technique and its safety. Review Article.

Maciej Pawlak<sup>1</sup>, Barbora East<sup>2</sup>, and Andrew Charles de Beaux<sup>3</sup>

<sup>1</sup>North Devon District Hospital

<sup>2</sup>Charles University First Faculty of Medicine

<sup>3</sup>Royal Infirmary of Edinburgh

May 29, 2020

## Abstract

**Background:** An acute inguinal hernia remains a common emergency surgical condition worldwide. While emergency surgery has a major role to play in treatment of acute hernias, not all patients are fit for emergency surgery, nor are facilities for such surgery always available. Taxis is the manual reduction of incarcerated tissues from the hernia sack to its natural compartment, and can help delay the need for surgery for days to months. The aim of this study was to prepare a safe algorithm for performing manual reduction of incarcerated inguinal hernias in adults. **Methods:** Medline, Scopus, Ovid and Embase were searched for papers related to emergency inguinal hernias. In addition, the British National Formulary and Safe Sedation Practice for Healthcare Procedures: Standards and Guidance were reviewed. **Results:** A safe technique of manual reduction of an acute inguinal hernia, called GPS (Gentle, Prepared and Safe) Taxis, is described. It should be performed within 24h from the onset of a painful irreducible lump in groin, and when concomitant symptoms and signs of bowel strangulation are absent. Conscious sedation guidelines should be followed. The most popular drug combination is of intravenous morphine and short acting benzodiazepine, both titrated carefully for optimal and safe effect. The dose of drugs must be individualised, and the smallest effective dosage should be used to avoid oversedation. Following successful taxis, the patient can be safely discharged after a short period of observation to return form more planned urgent surgery. **Conclusions:** Taxis is a feasible and safe method for patients with an incarcerated inguinal hernias. It likely reduces the risk and complications of anaesthesia and surgery in the emergency settings. GPS Taxis should be considered as first line treatment in the majority of patients presenting with an acute inguinal hernia when existing bowel infarction is unlikely.

Algorithm for the safe management of an incarcerated inguinal hernia in the emergency setting including Taxis: the technique and its safety. Review Article.

## Short title:

Algorithm for management of acute hernias.

## Authors:

Maciej Pawlak<sup>1</sup>, Barbora East<sup>2,3</sup>, Andrew Charles de Beaux<sup>4</sup>

Mr Maciej Pawlak MD, PhD <sup>1</sup>

Mrs Barbora East MD, PhD <sup>2,3</sup>

Mr Andrew de Beaux FRCS <sup>4</sup>

## Institutions:

1. North Devon District Hospital, Barnstaple, UK
2. 3rd Department of Surgery at 1st Faculty of Medicine at Charles University, Motol University Hospital, Prague, Czech Republic
3. 2nd Faculty of Medicine, Charles University, Prague, Czech Republic
4. Royal Infirmary of Edinburgh, Edinburgh, UK

**Corresponding author:**

Maciej Pawlak

Email: [maciej.pawlak@me.com](mailto:maciej.pawlak@me.com)

Address: Upper GI Surgery Department

Northern Devon District Hospital Raleigh Heights, Barnstaple EX31 4JB

**Authorship:**

All authors contributed to the study conception and design. Literature review was performed by Maciej Pawlak and Barbora East. Final decision on article inclusion was made by all authors. The first draft of the manuscript was written by Maciej Pawlak and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

**Funding:** The research has not been funded

**Conflict of interest:** MP, BE, ACdB have no conflicts of interest

**Ethics approval:** This study was performed in line with the principles of the Declaration of Helsinki. The study was exempt from ethics committee approval.

**Availability of data and material:** No research data, that has not been included in the manuscript is available for this study.

**Code availability:** No software application or costume code is available for this study

**Hosted file**

taxis manuscript IJOCP.docx available at <https://authorea.com/users/327770/articles/455213-algorithm-for-the-safe-management-of-an-incarcerated-inguinal-hernia-in-the-emergency-setting-including-taxis-the-technique-and-its-safety-review-article>

