

Study Summary

Complications in colorectal surgery: risk factors and preventive strategies

A literature review.

Kirchhoff P, Clavien P-A, Hahnloser D. Patient Safety in Surgery. 2010;4:5.

Conclusion

In order to minimise or even avoid complications it is crucial for surgeons to know the risk factors and strategies used to prevent, treat or reduce intra- and postoperative complications

Study Aim

To determine what the influenceable and non-influenceable risk factors are for colorectal surgery complications and how treatment strategies can be optimised to identify and minimise intra- and perioperative complications.

Methods

- A structured literature search of the MEDLINE, PubMed and Cochrane library databases was conducted
- Literature published between 1980–2009 was searched and summarised
- The following search terms were used to identify literature: complications, surgical site infections, anastomotic leak, risk factors, colorectal surgery, colorectal resection, laparoscopy and bowel cleansing
- Evidence of complication risk factors and management strategies within identified literature were extracted and summarised



Results



Risk factors in colorectal surgery should be recognised and addressed by strategies to prevent and **reduce complications**, and **start individualised treatment as soon as possible**

The following factors were identified to **increase** the risk of complications such as surgical site infections and anastomotic leak:

Preoperative		
Male or elderly patients	Overweight or obese patients	Prior abdominal surgery
Patients with pre-existing health conditions	Surgeon inexperience	Hospitals with low case loads
Intraoperative		
Prolonged operative time	Intraoperative blood loss	Iatrogenic injuries
Postoperative		
Poor pain management	Intravenous feeding	Failure to prevent ulcers or deep venous thrombosis

Management of anastomotic leak

Anastomotic leak was identified as the **most serious complication** for colorectal surgery. Surgical repair of leaks should be made **as early as possible** to improve patient outcomes.

- Bowel preparation does not prevent anastomotic leak and is not routinely recommended
- Routine drainage after anastomoses **does not** prevent anastomotic leak or other complications

Prevention, reduction and treatment of complications

- Development of **technical innovations**, especially **laparoscopy**, have contributed to the minimisation of intra- and postoperative risks
- **Surgeon training, hospital volume, standardisation of postoperative care and anticipation of learning curves** are critical preventative strategies to maximise patient safety, evaluate surgeon expertise and calculate cost-effectiveness