

EPOCH Trial Integrated Care Pathway: Summary of evidence

- Level A: Good scientific evidence suggests that the benefits of the clinical service substantially outweigh the potential risks. Clinicians should discuss the service with eligible patients.
- Level B: At least fair scientific evidence suggests that the benefits of the clinical service outweighs the potential risks. Clinicians should discuss the service with eligible patients.
- Level C: At least fair scientific evidence suggests that there are benefits provided by the clinical service, but the balance between benefits and risks are too close for making general recommendations. Clinicians need not offer it unless there are individual considerations.
- Level D: At least fair scientific evidence suggests that the risks of the clinical service outweighs potential benefits. Clinicians should not routinely offer the service to asymptomatic patients.
- Level I: Scientific evidence is lacking, of poor quality, or conflicting, such that the risk versus benefit balance cannot be assessed. Clinicians should help patients understand the uncertainty surrounding the clinical service.

Recommendation	Evidence	Outcome	Level
During surgery			
Clinical Pathways	Kinsman et al. Cochrane Library 2010 Issue 7. Clinical pathways: effects on professional practice, patient outcomes, length of stay and hospital costs.	Reduced morbidity and duration of hospital stay	B
Consultant led decision making	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
Computed tomography imaging within two hours of decision to perform test	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
Early goal directed therapy for patients with severe sepsis/septic shock	Dellinger et al. Surviving Sepsis Campaign: International Guidelines for Management of Severe Sepsis and Septic Shock. 2012 Intensive Care Med 2013; 39:165-228.	Reduced mortality	B
Analgesia within one hour of first medical assessment	Expert opinion	Expert opinion only	I

Recommendation	Evidence	Outcome	Level
Antibiotic therapy within one hour of first medical assessment	<p>Sotto et al. Evaluation of antimicrobial therapy management of 120 consecutive patients with secondary peritonitis. J Antimicrob Chemother 2002; 50: 569-76.</p> <p>De Waele et al. Randomised clinical trial of moxifloxacin versus ertapenem in complicated intra-abdominal infections: results of the PROMISE study. Int J Antimicrob Agent 2013; 41: 57-64.</p> <p>Kumar et al. Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock. Crit Care Med 2006; 34: 1589-96.</p>	Reduced morbidity	C
Correction of coagulopathy	Expert opinion	Expert opinion only	I

Recommendation	Evidence	Outcome	Level
Active glucose management	<p>Ziegler et al. Risk factors for anastomotic leak and mortality in diabetic patients undergoing colectomy. Arch Surg 2012; 147: 600-605.</p> <p>Ramos et al. Relationship of peri-operative hyperglycaemia and infections in patients who undergo surgery. Ann Surg 2008; 248: 585-591.</p> <p>McCavert et al. Peri-operative blood glucose management in general surgery. An observational cohort study. Int J Surg 2010; 8: 494-8.</p>	Hyperglycaemia associated with increased post-operative infection, duration of hospital of stay and mortality	B
Documented mortality risk estimate	<p>Barnett et al. Clinical risk scores in peri-operative management. Postgrad Med J 2011; 87: 535-41.</p> <p>Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.</p>	Reduced morbidity and mortality	C

Recommendation	Evidence	Outcome	Level
Provided patient and relatives with oral and written information about treatment	Fearon et al. Enhanced recovery after surgery: A consensus review of clinical care for patients undergoing colonic resection. Clin Nutr 2005; 24: 466–477.	May change patient expectations to facilitate post-operative recovery and pain relief.	C
During surgery			
Surgery within six hours of decision to operate	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
Consultant delivered surgery and anaesthesia	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
WHO surgical checklist	Thomassen O, Storesund A, Softeland E, Brattebo G: The effects of safety checklists in medicine: a systematic review. Acta Anaesthesiol Scand 2014; 58: 5-18.	Reduced morbidity and mortality	B

Recommendation	Evidence	Outcome	Level
Fluid therapy guided by cardiac output monitoring	Grocott et al. Perioperative increase in global blood flow to explicit defined goals and outcomes following surgery. Cochrane Database of Systematic Reviews 2013, Issue 7. Art. No.: CD004082.	Reduced morbidity	B
Low tidal volume protective ventilation	Futier et al. A Trial of Intraoperative low tidal volume ventilation in abdominal surgery. N Engl J Med 2013; 369: 428-37.	Reduced morbidity and duration of hospital stay	B
Maintain normothermia	Expert opinion	Expert opinion only	I
Prescribe post-operative analgesia	Expert opinion	Expert opinion only	I
Prescribe post-operative nausea & vomiting prophylaxis	Carlisle et al. Drugs for preventing postoperative nausea and vomiting. Cochrane Database of Systematic Reviews 2006, Issue 3. Art. No.: CD004125.	Reduced morbidity	B

Recommendation	Evidence	Outcome	Level
End of surgery risk evaluation	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
After surgery			
Admission to critical care within six hours of surgery	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
Early post-operative review by acute pain team	Expert opinion	Expert opinion only	I
Microbiology review of continued antibiotic therapy where indicated	Dellinger et al. Surviving Sepsis Campaign: International Guidelines for Management of Severe Sepsis and Septic Shock. 2012 Intensive Care Med 2013; 39:165-228.	Expert opinion only	I
Venous thromboembolism prophylaxis	NICE CG92: Venous thromboembolism: reducing the risk. National Institute for Health and Care Excellence. Manchester 2007	Reduced mortality	A

Recommendation	Evidence	Outcome	Level
Daily haematology and biochemistry until mortality risk is low (senior opinion)	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
Nutrition: early dietician review with consideration of benefits of enteral feeding	Powell-Tuck et al. British consensus guidelines on intra-venous fluid therapy for adult surgical patients (GIFTASUP). 2011 Available at: www.bapen.org.uk/pdfs/bapen_pubs/giftasup.pdf	Expert opinion only	I
Chest physiotherapy review on day one after surgery	Anderson et al. Higher risk general surgical patient. 2011 Royal College of Surgeons of England / Department of Health.	Expert opinion only	I
Critical Care Outreach review on standard ward with use of Early Warning Scores	NICE CG50: Acutely ill patients in hospital. National Institute for Health and Care Excellence. Manchester 2007	Reduced mortality	C