Multi-PICO Search Strategy (MPSS) of Association of industry sponsorship and positive outcome in randomised controlled trials in general and abdominal surgery

1. Master-PICO
   P: Patients undergoing visceral surgery
   I: Industry sponsorship
   C: Independent funding source
   O: Reported efficacy, effectiveness and safety outcomes

2. Minor-PICO

   Medical devices
   Mesh Preventive
   P: Patients undergoing abdominal surgery
   I: Preventive mesh
   C: Standard abdominal closure
   O: Mortality, morbidity, incision hernia
   P: Patients undergoing surgery with stoma placement
   I: Preventive mesh placement
   C: Standard operation
   O: Mortality, morbidity, Operation time, stoma hernia


   Mesh Repair
   P: Patients undergoing open hernia surgery
   I: Glue fixation
   C: Standard fixation
   O: Mortality, morbidity, hernia recurrence
   P: Patients undergoing open hernia surgery
   I: Self-fixating mesh
   C: Standard mesh
   O: Mortality, morbidity, hernia recurrence
   P: Patients undergoing hernia surgery
   I: Bio tissue
   C: Standard mesh
   O: Mortality, morbidity, hernia recurrence
   P: Patients undergoing groin hernia surgery
   I: Plug meshes
   C: Standard mesh
   O: Mortality, morbidity, hernia recurrence
Patients undergoing laparoscopic groin hernia surgery
I: Preparation with a spacemaker
C: Standard laparoscopic preparation
O: Mortality, morbidity, Operation time

Patients with bowel anastomosis
I: Stapling with bloodclotting adjuvant
C: Standard stapling
O: Mortality, morbidity, anastomotic leak

Patients with bowel anastomosis
I: Stapling with 4 or more rows
C: Standard stapling
O: Mortality, morbidity, anastomotic leak

Patients with bowel anastomosis
I: Stapler anastomosis
C: Hand-sewn anastomosis
O: Mortality, morbidity, anastomotic leak

Patients with distal pancreas resection
I: Stapler closure
C: Hand-sewn closure
O: Mortality, morbidity, anastomotic leak

Patients undergoing haemorrhoidectomy
I: Stapler operation (Longo)
C: Conventional technique
O: Mortality, morbidity, re-operation, operation time

Patients undergoing thyroidectomy
I: Ultrasonic scissors
C: Standard operation
O: Mortality, morbidity, operation time

Patients undergoing haemorrhoidectomy
I: Ultrasonic scissors
C: Conventional technique
O: Mortality, morbidity, re-operation, operation time
Water jet dissector

P: Patients undergoing liver dissection
I: Water jet dissection
C: Standard dissection
O: Mortality, morbidity, operation time

(*water jet dissector* OR "water jet dissection" OR "hydro-jet" OR hydrojet OR hydroadissection OR *"jet-cutter") AND random*

Trocar

P: Patients undergoing laparoscopic surgery
I: Mini-Trocars
C: Standard Trocars
O: Mortality, morbidity, incision hernia, cosmetic


Electric scalpel

P: Patients undergoing abdominal surgery
I: Skin incision with electric scalpel
C: Standard incision
O: Mortality, morbidity, surgical site infection, bleeding, incision hernia, cosmetic

P: Patients undergoing abdominal surgery
I: Organ preparation with electric scalpel
C: Standard preparation
O: Mortality, morbidity, surgical site infection, bleeding, incision hernia, cosmetic

Plug

P: Patients undergoing anal fistula repair
I: Plug
C: Standard operation
O: Mortality, morbidity, fistula closure rate

("anal fistula" OR "Rectal Fistula"[Mesh] OR "perianal fistula" OR "fistula-in-ano" ) AND (plug OR "fistula plug" ) AND (randomized controlled trial [ptyp] OR random*)

Coated suture

P: Patients undergoing abdominal surgery
I: Coated suture
C: Standard abdominal closure
O: Mortality, morbidity, surgical site infection

((("Sutures"[Mesh] OR (suture [tiab] OR sutures [tiab]))) AND ((coated OR impregnated)))) AND (randomized controlled trial [ptyp] OR random*)

Clotting adjuvants

P: Patients undergoing bile duct and liver surgery
I: Clotting adjuvant
C: Standard measures
O: Mortality, morbidity, bile leak

P: Patients undergoing pancreatic surgery
I: Clotting adjuvant
C: Standard measures
O: Mortality, morbidity, POPF

P: Patients undergoing abdominal surgery
I: Clotting adjuvant
C: Standard bleeding control
O: Mortality, morbidity, Reoperation/ Reintervention for bleeding

((("tachocomb "[Substance Name]) OR (tachocomb[tw]) OR ("TachoSil "[Substance Name]) OR (TachoSil[tw]) OR ("Coated Materials, Biocompatible/therapeutic use"[Mesh]) OR ("Fibrin Tissue Adhesive/therapeutic use"[Mesh]) OR ("Fibrinogen/therapeutic use"[Mesh]) OR ("Thrombin/therapeutic use"[Mesh]) OR (Fibrin Tissue Adhesive[tiab]) OR (Fibrin Tissue[tiab]) OR (Fibrin Sealant*[tiab]) OR Collagen Fleece[tiab] OR Tissue Adhesives[tiab]) AND (randomized controlled trial [ptyp] OR random*)

Adhesion prevention

P: Patients undergoing abdominal surgery
I: Adhesion prevention device
C: Placebo or nil
O: Mortality, morbidity, ileus, Adhesions seen by laparoscopy

((("icodextrin" [Supplementary Concept] OR icodextrin [tiab] OR "Seprafilm" [Supplementary Concept] OR sepracoat OR seprafilm OR "spraygel adhesion barrier" OR oxiplex-ap gel OR Oxiplex [Supplementary Concept] OR Adept [tiab]) OR (((((((Interceed[tiab]) OR tc7[tiab]) OR sprayshield[tiab]) OR spraygel[tiab]) OR polyethylene glycol[tiab]) OR (Hyaluronic Acid/therapeutic use[mesh]) OR hyaluronic acid [tiab] OR Carboxymethylcellulose Sodium/therapeutic use[mesh] OR carboxymethylcellulose [tiab] ) OR Polyethylene Gylcols/therapeutic use[mesh] OR "polyethylene glycols" [tiab])) AND (randomized controlled trial [pt] OR random*)}
Perioperative pharmacological and nutritional interventions with direct relation to the surgical procedure

Postoperative ileus management

P: Patients undergoing abdominal surgery
I: Alvimopan or Methylnaltrexone
C: Standard postoperative care (laxatives/enema)
O: Mortality, morbidity, bowel movements, DGE

Pancreatic fistula or enteral fistula

P: Patients undergoing pancreatic surgery
I: Somatostatine
C: Placebo
O: Mortality, morbidity esp. POPF

P: Patients with enteral fistula
I: Somatostatine
C: Placebo
O: Mortality, morbidity, Fistula closure, Success of Operation

Perioperative immunonutrition

P: Patients undergoing abdominal surgery
I: Perioperative immunonutrition
C: Standard nutrition
O: Mortality and morbidity