Oesophagectomy Care Pathways
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	Current Pathway		EROS Pathway	
Pre-operative Preparation	**Initial outpatient appointment**	Seen by surgeon Surgical approach agreed GP requested to prescribe statin Seen by CNS Buddy offered ICU visit offered Assessment for incentive spirometers Dietitian review (Nutritional supplements)	**Initial outpatient appointment**	Seen by surgeon Surgical approach agreed GP requested to prescribe statin Seen by CNS and referred to surgery school Dietitian review (nutritional supplements) Buddy offered Written patient information **Consent for PQIP preoperatively or on day of surgery**
			Surgery School	Group teaching session last wednesday of each month. Referrals from upper GI CNS's
	Pre-Assessment Clinic	Consultant led Anaesthetic assessment CPX test arranged patient deemed fit for surgery and given instructions	**CGA for over 70s**	Referral pathway TBC Performed by Care of Elderly physicians Recommendations to MDT re: medication changes, discharge planning etc.
	Day of surgery	Clear fluids from midnight NBM from 2 am enema on admission to ward Medical clerking TEDS Bloods/ Sliding scale if needed	**Pre-Assessment Clinic**	Consultant led Anaesthetic assessment CPX test arranged patient deemed fit for surgery and given instructions
			Day of Surgery	NBM from 2 am Enema? Medical clerking TEDS/Bloods/Sliding scale/ Visit from enhanced recovery NS **PQIP consent if not already done (Research nurse to do)**
Intra-operative Anaesthetic Strategy	**Brief Outline (from Giving an anaesthetic for open oesophagectomy, AB, 2011)**	Mid thoracic epidural or paravertebral block Arterial and central venous lines Double lumen tube with fiberoptic confirmation of correct positioning maintenance air/O2/desflurane &Remifentanil until epidural block established +/- beyond. Fluid therapy according to anaesthetist preference Urinary catheter Nasal temperature probe Analgesia : Paracetamol and morphine to supplement regional block/ cover neck wound/ diaphragm (shoulder pain). Antiemetics Anchored NG tube HDU	**Intraoperative Fluid Management**	**Continue established anaesthetic strategies plus:** Maintenance fluid at 1ml/kg/hour Goal directed fluid therapy during abdominal phase to guide administration of fluid and vasopressors when there is haemodynamic instability or significant blood loss [GDFT algorithm] maximum total fluid input of 4ml/kg/hour.
			Intraoperative Analgesia	Mid thoracic epidural or paravertebral block Paracetamol 1g I.V 4 hourly Parecoxib unless contraindicated Morphine to cover neck wound / diaphragmatic pain **but;** Consider Ketamine 0.25-0.5 mg/kg at induction Mg^{2+} 2.5g I.V slowly during the case Dexamethasone 4-8mg IV **minimise total opioid dose** **Where there is suspicion that the epidural is not working, consider re-siting prior to emergence**
			Data Collection	Intra-operative PQIP data entry

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Post - Operative (day of surgery)	**ICU care plan to be followed**	VTE prophylaxis Wound care hourly observations 6 hourly ABG	**General ICU Management** **Analgesia** **Fluid management** **Chest & Mobility**	Unchanged As per updated guideline [Post op analgesia guide]. Anaesthetist to set physiological parameters for fluid management algorithm prior to transfer to HDU. Suggested parameters: MAP 65-70 Urine output 0.5ml/kg/hour over 2 hours [Critical care fluid management algorithm] Incentive spirometry Upright position See Physiotherapy Guide [Oesophagectomy Physiotherapy Guide 2017]
Post - Operative days 1&2	**General Management**	VTE prophylaxis Assess and dress wounds Hygiene, privacy and dignity Address patient anxieties Start discharge planning	**General Management**	Unchanged
	General assessments	Critical care/ outreach review required? Blood results Lines inspected CXR NG tube care catheter hygiene maintained Wound/Chest drains	**General assessments**	Unchanged Review by enhanced recovery nurse specialist
	Fluid balance	IV fluids prescribed and accurate fluid balance recorded Monitor urine output Record any bowel movement/flatus	**Fluid Management**	[Critical care fluid management algorithm] until patient steps down to ward 21. Keep K+ 4.5-5.5 Fluid management as per current pathway on ward. (To be reviewed Nov 2017)
	Chest & mobility	O_2 administered as prescribed Assessment by physio mobilise as per physio plan breathing exercises as per physio plan	**Chest & Mobility**	See Physiotherapy Guide [Oesophagectomy Physiotherapy Guide 2017] Briefly: sit out of bed minimum of 4 hours. Walk 20m twice. Incentive spirometry hourly when awake, minimum 4 times per day.
	Nutrition	Strictly nil by mouth If Jejunostomy in situ - follow Feeding instructions Surgeon will advise on starting feeding. Regimen as per Dietitian.	**Nutrition**	Unchanged
	Pain & Nausea	Analgesia as prescribed Epidural or PCA observations Complete pain and sedation score tool Escalate if analgesia ineffective Anti-emetic for nausea/vomiting Pain team review for decision to remove epidural	**Pain & Nausea** **Data Collection**	As per updated guideline [Post op analgesia guide]. Anti-emetic for nausea/vomiting. Pain team review for decision to remove epidural PQIP follow up day 2 or 3 plus QI data collection tool

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Day 3-6	**General Management**	Anti-embolic stockings & tinzaparin Assess and dress wounds Discuss potential anxieties with patient MEWS recorded and escalated as needed Assist with hygiene needs Privacy & dignity maintained Discharge planning commenced Referral to clinical psychology if required	**General Management**	Unchanged
	General Assessments	Critical care outreach review required? Blood results lines inspected CXR NG tube care Catheter care	**General assessments**	Unchanged
	Fluid Balance	Can drains/tubes/catheter be removed? IV fluids prescribed and record accurate fluid balance Monitor and record urine output	**Fluid Balance**	Unchanged (review Nov 2017)
	Chest & Mobility	record any bowel movement/flatus O_2 administered as prescribed Assessment by physio Mobilise as per physio plan	**Chest & Mobility**	See Physiotherapy Guide [Oesophagectomy Physiotherapy Guide 2017] Increase walk to tds.
	Nutrition **Pain & Nausea**	As above As above	**Nutrition** **Pain & Nausea** **Data Collection**	unchanged [Post op analgesia guide] PQIP follow up day 2 or 3
Day 7	**Continue management as above PLUS:**	Gastrograffin swallow. Surgical team review and document result If no anastomotic leak consider 30ml per hour orally.	**Continue Management as above PLUS :** **Data Collection**	Gastrograffin swallow as per current pathway. PQIP Post op morbidity score data required
Day8	**Continue management as above PLUS:**	Inform dietitian of gastrograffin swallow result. If no anastomotic leak, consider 60-90ml orally as directed by surgical team.	**Continue Management as above PLUS:**	Build up oral fluids depending on results of gastrograffin swallow as per current pathway.
Day 9	**Continue management as above PLUS:**	Patient taught to self administer tinzaparin Encouraged to dress in own clothes if 60-90 ml/hour tolerated, allow free fluids as directed by surgical team	**Continue Management as above PLUS:**	Additional actions as per current pathway
Day 10	**Continue management as above PLUS:**	Consider sloppy diet if free fluids tolerated	**Continue management as above PLUS:**	Consider sloppy diet as per current pathway
Day 11 +	**Continue management as above PLUS:**	TTOs ordered. Step down to ward 8 or 11 social services rehab coordinator input home with 1/12 VTE prophylaxis Upper GI nurse appointment for 6/52	**Continue management as above PLUS:** **Data Collection**	Step down to ward 8 or 11 Discharge planning as per current pathway PQIP discharge data