

Appendices

A Pathway distal pancreatectomy

B Pathway pancreatectomy

NAME:		SURNAME:			DATE OF BIRTH:			DATE OF SURGERY:	DATE OF DISCHARGE:
A Distal pancreatectomy	PRE-ADMISSION	INPATIENT TREATMENT Admission	Day of surgery	1st postoperative day	2nd postoperative day	3rd-12th. postoperative day	DAY OF DISCHARGE 12th postoperative day	POST-DISCHARGE	
DIAGNOSTICS/MONITORING/	<input type="checkbox"/> medical history <input type="checkbox"/> clinical examination <input type="checkbox"/> laboratory (blood count, electrolytes, liver- and kidney-specific values, coagulation, HbA1c for all patients, CEA, CA 19-9) <input type="checkbox"/> CT or MRI upper abdomen, chest X-ray, if suspicious-> chest CT <input type="checkbox"/> after staging: case review at multidisciplinary tumor conference <input type="checkbox"/> if albumin <30 g/l: presentation at nutrition clinic <input type="checkbox"/> in case of AP-elevation or clinical sings of cholestasis: ERCP + EPT <input type="checkbox"/> consent for anesthesia (including epidural catheter), additional exams on demand <input type="checkbox"/> define date of admission/surgery (patient management)	<input type="checkbox"/> laboratory (blood count, electrolytes, liver- and kidney-specific values, coagulation; CEA, CA 19-9 if not done pre-admission) <input type="checkbox"/> crossmatch blood and prepare 2 RCC ECG if not already performed at pre-admission	<u>Intraoperative monitoring:</u> <input type="checkbox"/> BP/HR <input type="checkbox"/> Relaxation <input type="checkbox"/> body temperature (aim >36°C) <input type="checkbox"/> BS (target 120-200 mg/dl) every hour, correct with infusion of 5%-glucose or insulin bolus <input type="checkbox"/> FiO ₂ (desired value 0,7) <input type="checkbox"/> CVP <u>Postoperative</u> <input type="checkbox"/> intermediate care unit <input type="checkbox"/> monitor BP/HR <input type="checkbox"/> monitor urinary excretion <input type="checkbox"/> monitor surgical drains/ epidural anesthesia <input type="checkbox"/> blood sugar measurements every hour (target 150 mg/dl) <input type="checkbox"/> at night: small laboratory routine, blood count and coagulation <input type="checkbox"/> chest X-ray after central venous catheter insertion	<input type="checkbox"/> monitor BP/HR/ temperature twice a day. <input type="checkbox"/> blood count, electrolytes, liver- and kidney-specific values, coagulation, amylase/ lipase, CRP <input type="checkbox"/> blood sugar day profile <input type="checkbox"/> transfer to general ward	<input type="checkbox"/> monitor BP/HR/ temperature twice a day. <input type="checkbox"/> blood sugar day profile <input type="checkbox"/> endocrinological consultation in case of necessary insulin application	<input type="checkbox"/> monitor BP/HR/ temperature twice a day. <input type="checkbox"/> blood count, electrolytes, liver- and kidney-specific values, coagulation, amylase/ lipase (3 rd and 5 th POD), CRP <input type="checkbox"/> blood sugar day profile <input type="checkbox"/> endocrinological consultation in case of necessary insulin application after discontinuity of Octreotide	<input type="checkbox"/> monitor BP/HR/ temperature in the morning.	<input type="checkbox"/> medical history <input type="checkbox"/> clinical examination <input type="checkbox"/> temperature <input type="checkbox"/> blood count, electrolytes, liver- and kidney-specific values, coagulation, amylase/ lipase, CRP <input type="checkbox"/> abdominal sonography	
ANAESTHESIA			<input type="checkbox"/> cefazolin 2g IV (in case of allergy ciprofloxacin 400 mg IV) / metronidazole 500 mg IV <u>30-60 minutes before surgery</u> <input type="checkbox"/> prewarming <input type="checkbox"/> general anesthesia						
LINES			<input type="checkbox"/> G16 venous cannula <input type="checkbox"/> central venous catheter <input type="checkbox"/> arterial cannulation (only in case of high-risk patient) <input type="checkbox"/> removal of nasogastric tube soon after extubation <input type="checkbox"/> epidural anesthesia (Th 8-10)	<input type="checkbox"/> if applicable remove arterial cannula before transfer to general ward	<input type="checkbox"/> remove venous cannula <input type="checkbox"/> remove central venous catheter	<input type="checkbox"/> remove thoracic epidural catheter (in the morning of day 3 after surgery)			
FOLEY CATHETER			<input type="checkbox"/> insertion of transurethral foley catheter before surgery		<input type="checkbox"/> remove transurethral foley catheter				

AC= anticoagulation, AP= alkaline phosphatase, BP= blood pressure, BS= blood sugar, ca.= circa, CRP= C-reactive protein, CVP= central venous pressure, DRG= diagnosis related groups, ECG= electrocardiogram, EDC= epidural catheter, EF= Easyflow-Drain, ERCP= endoscopic retrograde cholangiopancreatography, EPT= endoscopic papillotomy, G= Gauge, GH= general health, HPB= hepato-pancreatico-biliary, HR= heart rate, I.V. = intravenous, PAT= patient, POD= postoperative day, PT= physiotherapy, RCC= red cell concentrate, RT= respiratory therapy, sc= subcutaneous. This clinical pathway does not absolve therapists from their responsibility of impact, adverse effect, dosage, contraindications of substances for patients. Recommended dosage is for normal weight adults without contraindications.

SURGICAL TECHNIQUE			<input type="checkbox"/> Treatment of pancreas stump: fish-mouth closure in back-and-forth sutured (4-0) <input type="checkbox"/> Treatment of pancreas duct: cross stitch (5-0)					
	DRAINS		<input type="checkbox"/> 1 EF on pancreas stump, 1 EF subphrenic (left-sided)			<input type="checkbox"/> On 3. + 5. POD Amylase in target drains, remove target drains on day 5 after surgery if Amylase <250 U/l in drain fluid	<input type="checkbox"/> Double sewing of target drains	<input type="checkbox"/> Check target drain sewing; if necessary renew
NUTRITION	<input type="checkbox"/> balanced diet, supplementary nutrition as required (nutrition clinic)	<input type="checkbox"/> balanced diet, supplementary nutrition as required (nutrition clinic)	<input type="checkbox"/> sweetened tea up to two hours prior to surgery <input type="checkbox"/> two hours after surgery tea (max. 1500 ml); 2 portions of yoghurt	<input type="checkbox"/> soft diet / diabetes diet <input type="checkbox"/> drink >1500 ml	<input type="checkbox"/> soft diet / diabetes diet <input type="checkbox"/> drink >1500 ml	<input type="checkbox"/> soft diet / diabetes diet <input type="checkbox"/> drink >1500 ml	<input type="checkbox"/> soft diet / diabetes diet <input type="checkbox"/> drink >1500 ml	<input type="checkbox"/> balanced diet / diabetes diet
IV MANAGEMENT			<input type="checkbox"/> maintain normovolaemia during surgery <input type="checkbox"/> Intraoperative/ postanaesthesia care unit /IMC: glucose G5% IV if blood sugar <120 mg/dl, insulin perfusor, glucose G5% IV if blood sugar >160 mg/dl (according to endocrinological consultation) <input type="checkbox"/> Postoperative fluid management according to CVP (target <5 cmH ₂ O)	<input type="checkbox"/> none	<input type="checkbox"/> none	<input type="checkbox"/> none	<input type="checkbox"/> none	
DEFECATION				<input type="checkbox"/> magnesium 5 mmol/l as solution po till until first defecation	<input type="checkbox"/> magnesium 5 mmol/l as solution po till until first defecation	<input type="checkbox"/> magnesium 5 mmol/l as solution po till until first defecation		
MEDICATION	<input type="checkbox"/> continue medication <input type="checkbox"/> stop coagulation inhibitors, in case of warfarin or direct oral anticoagulants: Fraxiparine 0,1 / 10 kg body weight bid <input type="checkbox"/> Stop oral antidiabetic medication on admission day, (Metformin 48h prior to surgery) <input type="checkbox"/> If splenectomy is planned: vaccination with Pneumovax 23, Mencevax ACWY, Act-HiB >14 days before surgery	<input type="checkbox"/> home medication with stated restrictions <input type="checkbox"/> blood sugar measurements every 6 hours <input type="checkbox"/> BS (target 120-200 mg/dl) l <input type="checkbox"/> insulin scheme: BS 180-210: +2 iE; BS 210-240: +3 iE; BS 240-270: +4 iE BS 300-350: +6 iE BS 350-400: +8 iE basal insulin sc <input type="checkbox"/> in case of full anticoagulation and planned thoracic	<input type="checkbox"/> home medication up to two hours before surgery (consider above mentioned exceptions) <input type="checkbox"/> premedication as recommended by anesthesiologist <input type="checkbox"/> in the morning: no Fraxiparine <input type="checkbox"/> in case of soft pancreas tissue or small duct (< 3 mm): intraoperative Octreotide 1 x 100 µg sc	<input type="checkbox"/> home medication with stated restrictions <input type="checkbox"/> blood sugar measurements every 6 hours <input type="checkbox"/> BS (target 120-200 mg/dl) <input type="checkbox"/> insulin scheme: BS 180-210: +2 iE; BS 210-240: +3 iE; BS 240-270: +4 iE BS 300-350: +6 iE BS 350-400: +8 iE basal insulin sc <input type="checkbox"/> Pantoprazole 40 mg p.o. 1-0-0 <input type="checkbox"/> Fraxiparine 0,3 ml	<input type="checkbox"/> home medication with stated restrictions, restart oral antidiabetic medication after 48h after surgery <input type="checkbox"/> blood sugar measurements every 6 hours <input type="checkbox"/> BS (target 120-200 mg/dl) <input type="checkbox"/> insulin scheme: BS 180-210: +2 iE; BS 210-240: +3 iE; BS 240-270: +4 iE BS 300-350: +6 iE BS 350-400: +8 iE basal insulin sc	<input type="checkbox"/> home medication with stated restrictions <input type="checkbox"/> blood sugar measurements every 6 hours <input type="checkbox"/> BS (target 120-200 mg/dl) <input type="checkbox"/> insulin scheme: BS 180-210: +2 iE; BS 210-240: +3 iE; BS 240-270: +4 iE BS 300-350: +6 iE BS 350-400: +8 iE basal insulin sc <input type="checkbox"/> Pantoprazole 40 mg p.o. 1-0-0 <input type="checkbox"/> Fraxiparine 0,3 ml	<input type="checkbox"/> home medication with stated restrictions <input type="checkbox"/> Pantoprazole 40 mg p.o. 1-0-0 <input type="checkbox"/> Fraxiparine 0,3 ml sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight twice a day) <input type="checkbox"/> pancreatic enzymes 3 x 25000 iE in case of steatorrhea <input type="checkbox"/> after splenecto-	<input type="checkbox"/> home medication, restart anticoagulant medication 14 days after surgery <input type="checkbox"/> pancreatic enzymes 3 x 25000 iE in case of steatorrhea <input type="checkbox"/> if vaccination could not be realized on ward or by family physician after splenectomy: vaccination with Pneumovax 23, Mencevax ACWY, Act-HiB

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		EDC: Fraxiparine 0,1 / 10 kg body weight only in the morning		sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight twice a day <input type="checkbox"/> in case of soft pancreas tissue or small duct (< 3 mm): Octreotide 3 x 100 µg sc <input type="checkbox"/> pancreatic enzymes 3 x 25000 iE in case of steatorrhea	<input type="checkbox"/> Pantoprazole 40 mg p.o. 1-0-0 <input type="checkbox"/> Fraxiparine 0,3 ml sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight twice a day; in case planned removal the next day no Fraxiparine at nighttime <input type="checkbox"/> in case of soft pancreas tissue or small duct (< 3 mm): Octreotide 3 x 100 µg sc <input type="checkbox"/> pancreatic enzymes 3 x 25000 iE in case of steatorrhea	sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight twice a day; in case planned removal the next day no Fraxiparine at nighttime <input type="checkbox"/> in case of soft pancreas tissue or small duct (< 3 mm): Octreotide 3 x 100 µg sc: (until POD 5) <input type="checkbox"/> pancreatic enzymes 3 x 25000 iE in case of steatorrhea	my: vaccination with Pneumovax 23, Mencevax ACWY, Act-HiB	
TRANSFUSION			<input type="checkbox"/> if Hb <8 g/dl or cardiopulmonary disorders	<input type="checkbox"/> if Hb <8 g/dl or cardiopulmonary disorders	<input type="checkbox"/> if Hb <8 g/dl or cardiopulmonary disorders	<input type="checkbox"/> if Hb < 8g/dl or cardiopulmonary disorders		
ANALGESIA			<u>Intraoperative</u> <input type="checkbox"/> metamizole 1 g I.V. <u>Postoperative</u> <input type="checkbox"/> metamizole 1 g I.V. <input type="checkbox"/> piritramide 7,5 mg IV only in case of failed epidural anesthesia	<input type="checkbox"/> to avoid	<input type="checkbox"/> to avoid	<input type="checkbox"/> to avoid		
oral				Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o., on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o., on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o., on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o., on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	<input type="checkbox"/> on demand
EPIDURAL CATHETER			<input type="checkbox"/> thoracic epidural delivery pump: ropivacaine 0,2% + 20 µg sufentanil epidural (46 ml ropivacaine 0,2% + 4 ml sufentanil epidural = 0,4 µg sufentanil/ml), 3-7 ml/h	<input type="checkbox"/> thoracic epidural catheter (T8-10) as stated before	<input type="checkbox"/> thoracic epidural catheter (T8-10) as stated before	<input type="checkbox"/> remove thoracic epidural catheter in the morning of day 3 after surgery (in case of full anticoagulation pause Fraxiparine 24h before removal and 2-4h thereafter)		

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REHAB						<input type="checkbox"/> request rehabilitation treatment, when no adjuvant treatment is planned		<input type="checkbox"/> inquire about rehabilitation treatment
QUALITY MANAGEMENT/ MEDICAL REPORT/ DRG (diagnosis related groups)			<input type="checkbox"/> collect tissue samples for research <input type="checkbox"/> request pathology report (surgeon) <input type="checkbox"/> brief operation report (surgeon) <input type="checkbox"/> detailed operation report (written by surgeon)			<input type="checkbox"/> check pathology report <input type="checkbox"/> case review at multidisciplinary tumor conference <input type="checkbox"/> plan outpatient follow up appointment on day 8 after surgery <input type="checkbox"/> prepare discharge letter for referring physicians (including postoperative recommendations and post discharge appointment)	<input type="checkbox"/> hand discharge letter to patient <input type="checkbox"/> hand chart to chief resident for DRG coding	
INFORMATION AND CONSENT	<input type="checkbox"/> avoid alcohol and smoking 14 days before surgery <input type="checkbox"/> informed consent <input type="checkbox"/> hand out patient brochure	<input type="checkbox"/> pre-operation discussion	<input type="checkbox"/> information of next-of-kin by surgeon (red sheet) <input type="checkbox"/> inform patient postoperatively <input type="checkbox"/> inform referring physicians				<input type="checkbox"/> final discussion with patient and next-of-kin (histological result and postoperative recommendations) <input type="checkbox"/> phone call to referring physician	<input type="checkbox"/> discuss histological result and further recommendations with patient (if not happened before), communicate further appointments
NURSING		<input type="checkbox"/> PAT-admission + information <input type="checkbox"/> PAT-history <input type="checkbox"/> „red sheet “: next-of-kin phone number	<u>Postoperative:</u> <input type="checkbox"/> PAT-information <input type="checkbox"/> counseling/guidance <input type="checkbox"/> effectuation of orders from operative report			<input type="checkbox"/> prepare discharge documents <input type="checkbox"/> schedule outpatient follow-up appointment on day 8 after surgery <input type="checkbox"/> discharge talk	<input type="checkbox"/> PAT-discharge	
patient admission/ discharge								
medical round / elaboration		<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> print laboratory results	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> print laboratory results	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> print laboratory results	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> printout of laboratory results	
documentation	<input type="checkbox"/> insert CP sheet into inpatient chart	<input type="checkbox"/> insert CP sheet into inpatient chart	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities

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patient care		<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis <input type="checkbox"/> schedule discharge appointment at outpatient diabetes clinic	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis	
mobilization/physiotherapy			<input type="checkbox"/> mobilization: 5 h after surgery to edge of bed depending on age/GH/time	<input type="checkbox"/> mobilization: >4h out of bed; walk on aisle twice, depending on age/GH <input type="checkbox"/> PT in case of COPD, impaired mobility, prolonged bedriddenness	<input type="checkbox"/> mobilization: >4h out of bed; walk on aisle twice, depending on age/GH <input type="checkbox"/> PT in case of COPD, impaired mobility, prolonged bedriddenness	<input type="checkbox"/> complete mobilization (in bed only during nap and at night) <input type="checkbox"/> PT in case of COPD, impaired mobility, prolonged bedriddenness	<input type="checkbox"/> complete mobilization (in bed only during nap and at night)	
patient control		<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature, breathing) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)
wound / drains				<input type="checkbox"/> change wound dressing	<input type="checkbox"/> change wound dressing	<input type="checkbox"/> change wound dressing	<input type="checkbox"/> change wound dressing <input type="checkbox"/> remove drain after order	<input type="checkbox"/> remove wound staples after order

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NAME:		SURNAME:			DATE OF BIRTH:			DATE OF SURGERY:	DATE OF DISCHARGE:
B Pancreatectomy	PRE-ADMISSION	INPATIENT TREATMENT admission	Day of surgery	1st postoperative day	2nd postoperative day	3rd-12th. postoperative day	DAY OF DISCHARGE 12th postoperative day	POST-DISCHARGE	
DIAGNOSTICS/MONITORING/	<input type="checkbox"/> medical history <input type="checkbox"/> clinical examination <input type="checkbox"/> laboratory (blood count, electrolytes, liver- and kidney-specific values, coagulation, HbA1c for all patients, CEA, CA 19-9) <input type="checkbox"/> CT or MRI upper abdomen, chest X-ray, if suspicious-> chest CT <input type="checkbox"/> after staging: case review at multidisciplinary tumor conference <input type="checkbox"/> if albumin <30 g/l: presentation at nutrition clinic <input type="checkbox"/> consent for anesthesia (including epidural catheter), additional exams on demand <input type="checkbox"/> define date of admission/surgery (patient management) <input type="checkbox"/> appointment at diabetes clinic	<input type="checkbox"/> laboratory (blood count, electrolytes, liver- and kidney-specific values, coagulation; HbA1c for all patients, CEA, CA 19-9 if not done pre-admission) <input type="checkbox"/> crossmatch blood and prepare 2 RCC <input type="checkbox"/> ECG if not already performed at pre-admission	<u>Intraoperative monitoring:</u> <input type="checkbox"/> BP/HR <input type="checkbox"/> Relaxation <input type="checkbox"/> body temperature (aim >36°C) <input type="checkbox"/> BS (target 120-200 mg/dl) every hour, correct with infusion of 5%-glucose or insulin bolus <input type="checkbox"/> FiO ₂ (desired value 0,7) <input type="checkbox"/> CVP <u>Postoperative</u> <input type="checkbox"/> intermediate care unit <input type="checkbox"/> monitor BP/HR <input type="checkbox"/> monitor urinary excretion <input type="checkbox"/> monitor surgical drains <input type="checkbox"/> at night: small laboratory routine, blood count and coagulation <input type="checkbox"/> chest X-ray after central venous catheter insertion <input type="checkbox"/> inspect dressings <input type="checkbox"/> start insulin perfusor according to the Yale Insulin Infusion Protocol (blood sugar measurements every hour)	<input type="checkbox"/> monitor BP/HR/temperature twice a day. <input type="checkbox"/> blood count, electrolytes, liver- and kidney-specific values, coagulation, CRP <input type="checkbox"/> insulin according to the Yale Insulin Infusion Protocol (blood sugar measurements every hour) <input type="checkbox"/> endocrinological consultation	<input type="checkbox"/> monitor BP/HR/temperature. twice a day <input type="checkbox"/> blood sugar day profile <input type="checkbox"/> transfer to general ward <input type="checkbox"/> insulin according to the Yale Insulin Infusion Protocol (blood sugar measurements every hour)	<input type="checkbox"/> monitor BP/HR/temperature. twice a day <input type="checkbox"/> blood count, electrolytes, liver- and kidney-specific values, coagulation, CRP (on day 3 and 7 after surgery) <input type="checkbox"/> blood sugar day profile, endocrinological consultation I (day 5), BS target: 140-180mg/dl <input type="checkbox"/> in case of nausea/vomiting: abdominal sonography (paralytic ileus? Gastroparesis?)	<input type="checkbox"/> monitor BP/HR/temperature/BS in the morning	<input type="checkbox"/> medical history clinical examination <input type="checkbox"/> temperature <input type="checkbox"/> in case of symptoms: electrolytes, liver- and kidney-specific values, coagulation, CRP, abdominal sonography	
ANAESTHESIA			<input type="checkbox"/> cefazolin 2g IV (in case of allergy ciprofloxacin 400 mg IV) / metronidazole 500 mg IV <u>30-60 minutes before surgery</u> <input type="checkbox"/> prewarming <input type="checkbox"/> general anesthesia						
LINES			<input type="checkbox"/> G16 venous cannula <input type="checkbox"/> central venous catheter <input type="checkbox"/> arterial cannulation <input type="checkbox"/> removal of nasogastric tube soon after extubation <input type="checkbox"/> epidural anesthesia (Th 8-10)	<input type="checkbox"/> remove arterial cannula	<input type="checkbox"/> remove venous cannula	<input type="checkbox"/> remove thoracic epidural catheter (in the morning of day 3 after surgery) <input type="checkbox"/> remove central venous catheter (on day 3 after surgery) <input type="checkbox"/> in case of paralytic ileus / gastroparesis: insert nasogastric tube			
FOLEY CATHETER			<input type="checkbox"/> insertion of transurethral foley catheter before surgery		<input type="checkbox"/> remove transurethral foley catheter				

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SURGICAL TECHNIQUE			<input type="checkbox"/> pancreatectomy with hepato-cojejunostomy and gastroenterostomy					
DRAINS			<input type="checkbox"/> one drain placed on hepato-cojejunostomy			<input type="checkbox"/> remove target drain on day 3 after surgery if no bilirubin in drain fluid		
NUTRITION	<input type="checkbox"/> balanced diet if possible <input type="checkbox"/> supplementary nutrition as required (nutrition clinic)	<input type="checkbox"/> balanced diet if possible <input type="checkbox"/> supplementary nutrition as required (nutrition clinic)	<input type="checkbox"/> sweetened tea up to two hours prior to surgery <input type="checkbox"/> postoperative nil-by-mouth	<input type="checkbox"/> tea in sips (600 ml)	<input type="checkbox"/> tea at will (1500 ml) <input type="checkbox"/> protein drinks	<input type="checkbox"/> soft diet on day 3 after surgery <input type="checkbox"/> diabetes diet on day 4 after surgery <input type="checkbox"/> drink >1500 ml	<input type="checkbox"/> diabetes diet <input type="checkbox"/> drink >1500 ml	<input type="checkbox"/> diabetes diet
IV MANAGEMENT			<input type="checkbox"/> maintain normovolaemia during surgery <input type="checkbox"/> insulin perfusor, glucose G5% IV, blood sugar measurements every hour <input type="checkbox"/> fluid management according to CVP (target <5 cmH ₂ O)	<input type="checkbox"/> according to fluid balance	<input type="checkbox"/> according to fluid balance	<input type="checkbox"/> 1000 ml electrolyte solution (only on day 3 after surgery)	<input type="checkbox"/> none	
DEFECATION					<input type="checkbox"/> magnesium 5 mmol/l as solution po till until first defecation	<input type="checkbox"/> magnesium 5 mmol/l as solution po till until first defecation		
MEDICATION	<input type="checkbox"/> continue medication <input type="checkbox"/> stop coagulation inhibitors, in case of warfarin or direct oral anticoagulants: Fraxiparine 0,1 / 10 kg body weight bid <input type="checkbox"/> stop oral antidiabetic medication on admission day <input type="checkbox"/> ASS 100 to be continued in case of justified indication <input type="checkbox"/> If splenectomy is planned: vaccination with Pneumovax 23, Mencevax ACWY, Act-HiB >14 days before surgery	<input type="checkbox"/> home medication with stated restrictions <input type="checkbox"/> insulin scheme: BS 140-200: 4 iU; BS 200-280: 8 iU; BS > 280 12 iU basal insulin sc, control after 2 h <input type="checkbox"/> in case of full anticoagulation and planned thoracic EDC: Fraxiparine 0,1 / 10 kg body weight only in the morning <input type="checkbox"/> in case of cholestasis: vitamin K 10 mg I.V.	<input type="checkbox"/> home medication up to two hours before surgery (consider above mentioned exceptions) <input type="checkbox"/> premedication as recommended by anesthesiologist <input type="checkbox"/> insulin scheme according to the Yale Insulin Protocol <input type="checkbox"/> Pantoprazole 40 mg IV at nighttime <input type="checkbox"/> in case of cholestasis: vitamin K 10 mg I.V. <input type="checkbox"/> in the morning: no Fraxiparine	<input type="checkbox"/> home medication (consider above mentioned exceptions) <input type="checkbox"/> insulin scheme according to the Yale Insulin Protocol <input type="checkbox"/> Pantoprazole 40 mg IV 1-0-1 <input type="checkbox"/> Fraxiparine 0,3 ml sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight only in the morning) <input type="checkbox"/> in case of cholestasis: vitamin K 10 mg I.V.	<input type="checkbox"/> home medication (consider above mentioned exceptions), <input type="checkbox"/> insulin scheme according to the Yale Insulin Protocol <input type="checkbox"/> Pantoprazole 40 mg IV 1-0-1 <input type="checkbox"/> Fraxiparine 0,3 ml sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight only in the morning) <input type="checkbox"/> in case of cholestasis: vitamin K 10 mg I.V.	<input type="checkbox"/> home medication (consider above mentioned exceptions) <input type="checkbox"/> insulin sc according to endocrinological consultation <input type="checkbox"/> Pantoprazole 40 mg IV 1-0-1 <input type="checkbox"/> Fraxiparine 0,3 ml sc 0-0-1 (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight twice a day <input type="checkbox"/> in case of gastroparesis: erythromycin 4 x 250 mg I.V. <input type="checkbox"/> once normal diet achieved: pancreatic enzymes 3 x 25000 iE in case of steatorrhea	<input type="checkbox"/> home medication (consider above mentioned exceptions) <input type="checkbox"/> insulin sc according to endocrinological consultation <input type="checkbox"/> Pantoprazole 40 mg IV 1-0-1 <input type="checkbox"/> stop Fraxiparine (in case of full anticoagulation: Fraxiparine 0,1 / 10 kg body weight twice a day, overlap with warfarin or direct oral anticoagulants) <input type="checkbox"/> pancreatic enzymes 3 x 25000 iE in case of steatorrhea <input type="checkbox"/> after splenectomy: vaccination with Pneumovax 23, Mencevax	<input type="checkbox"/> home medication, restart anticoagulant medication 14 days after surgery <input type="checkbox"/> if vaccination could not be realized on ward or by family physician after splenectomy: vaccination with Pneumovax 23, Mencevax ACWY, Act-HiB

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TRANSFUSION			<input type="checkbox"/> if Hb <8 g/dl or cardiopulmonary disorders	<input type="checkbox"/> if Hb <8 g/dl or cardiopulmonary disorders	<input type="checkbox"/> if Hb <8 g/dl or cardiopulmonary disorders	<input type="checkbox"/> if Hb < 8g/dl or cardiopulmonary disorders	ACWY, Act-HiB	
ANALGESIA	intravenous		<u>Intraoperative</u> <input type="checkbox"/> Metamizole 1 g I.V.	<input type="checkbox"/> Metamizole 1 g I.V.	<input type="checkbox"/> to avoid	<input type="checkbox"/> to avoid		
		oral	<u>Postoperative</u> <input type="checkbox"/> Metamizole 1 g I.V. <input type="checkbox"/> Piritramide 7,5 mg IV only in case of failed epidural anesthesia	<input type="checkbox"/> IV only in case of failed epidural anesthesia				
EPIDURAL CATHETER	REHAB				Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o, on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o, on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	Pain ladder <i>Step 1:</i> metamizole 4x1 g p.o, on demand. paracetamol 4x1g p.o. <i>Step 2:</i> additional oxycodone/naloxone 10/5 mg p.o., oxycodone 5-10 mg on demand <i>Step 3:</i> pain consultation oxycodone/naloxone 5/2,5 mg at age>75	<input type="checkbox"/> on demand
			<input type="checkbox"/> thoracic epidural delivery pump: ropivacaine 0,2% + 20 µg sufentanil epidural (46 ml ropivacaine 0,2% + 4 ml sufentanil epidural= 0,4 µg sufentanil /ml), 3-7 ml/h	<input type="checkbox"/> thoracic epidural catheter (T8-10) as stated before	<input type="checkbox"/> thoracic epidural catheter (T8-10) as stated before	<input type="checkbox"/> remove thoracic epidural catheter in the morning of day 3 after surgery (in case of full anticoagulation pause Fraxiparine 24h before removal and 2-4h thereafter)		
						<input type="checkbox"/> request rehabilitation treatment, when no adjuvant treatment is planned		<input type="checkbox"/> inquire about rehabilitation treatment
QUALITY MANAGEMENT/ MEDICAL REPORT/ DRG (diagnosis related groups)			<input type="checkbox"/> collect tissue samples for research <input type="checkbox"/> request pathology report (surgeon) <input type="checkbox"/> brief operation report (surgeon) <input type="checkbox"/> detailed operation report (written by surgeon)			<input type="checkbox"/> check pathology report <input type="checkbox"/> case review at multidisciplinary tumor conference <input type="checkbox"/> plan outpatient follow up appointment on day 8 after surgery <input type="checkbox"/> prepare discharge	<input type="checkbox"/> hand discharge letter to patient <input type="checkbox"/> hand chart to chief resident for DRG coding	

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						letter for referring physicians (including postoperative recommendations and post discharge appointment)		
INFORMATION AND CONSENT	<input type="checkbox"/> avoid alcohol and smoking 14 days before surgery <input type="checkbox"/> informed consent <input type="checkbox"/> hand out patient brochure		<input type="checkbox"/> information of next-of-kin by surgeon (red sheet) <input type="checkbox"/> inform patient postoperatively <input type="checkbox"/> inform referring physicians				<input type="checkbox"/> final discussion with patient and next-of-kin (histological result and postoperative recommendations) <input type="checkbox"/> phone call to referring physician	<input type="checkbox"/> discuss histological result and further recommendations with patient (if not happened before), communicate further appointments
NURSING		<input type="checkbox"/> PAT-admission + information <input type="checkbox"/> PAT-history <input type="checkbox"/> „red sheet “: next-of-kin phone number	<u>Postoperative:</u> <input type="checkbox"/> PAT-information <input type="checkbox"/> counseling/guidance <input type="checkbox"/> effectuation of orders from operative report			<input type="checkbox"/> prepare discharge documents <input type="checkbox"/> schedule outpatient follow-up appointment on day 8 after surgery <input type="checkbox"/> discharge talk	<input type="checkbox"/> PAT-discharge	
patient admission/ discharge								
medical round / elaboration		<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> print laboratory results	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> print laboratory results	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> print laboratory results	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders	<input type="checkbox"/> participation in ward round <input type="checkbox"/> effectuation of ward round orders <input type="checkbox"/> printout of laboratory results	
documentation	<input type="checkbox"/> insert CP sheet into inpatient chart	<input type="checkbox"/> insert CP sheet into inpatient chart	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	<input type="checkbox"/> document secondary diagnosis (DRG form) <input type="checkbox"/> document nursing activities	
patient care		<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis <input type="checkbox"/> schedule discharge appointment at outpatient diabetes clinic	<input type="checkbox"/> care according to nursing standard <input type="checkbox"/> drug administration <input type="checkbox"/> BT (spirometer prophylaxis, expectorant, Pine menthol) <input type="checkbox"/> thromboprophylaxis	<input type="checkbox"/> continue diabetes counseling
mobilization/ physiotherapy			<input type="checkbox"/> mobilization: 5 h after surgery to edge of bed depending on age/GH/time	<input type="checkbox"/> mobilization: >4h out of bed; walk on aisle twice, depending on age/ GH <input type="checkbox"/> PT in case of COPD, impaired mobility, prolonged bedriddenness	<input type="checkbox"/> mobilization: >4h out of bed; walk on aisle twice, depending on age/ GH <input type="checkbox"/> PT in case of COPD, impaired mobility, prolonged bedriddenness	<input type="checkbox"/> complete mobilization (in bed only during nap and at night) <input type="checkbox"/> PT in case of COPD, impaired mobility, prolonged bedriddenness	<input type="checkbox"/> complete mobilization (in bed only during nap and at night)	

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patient control		<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10) <input type="checkbox"/> BS-monitoring (according to the intensive Yale Protocol, blood sugar measurements every hour)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10) <input type="checkbox"/> BS-monitoring (according to the intensive Yale Protocol, blood sugar measurements every hour)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10) <input type="checkbox"/> BS-monitoring (according to the intensive Yale Protocol, blood sugar measurements every hour)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10) <input type="checkbox"/> on general ward: BS day profile	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)	<input type="checkbox"/> vital signs (HR, BP, temperature) <input type="checkbox"/> pain intensity (1-10)
	wound / drains			<input type="checkbox"/> change wound dressing	<input type="checkbox"/> change wound dressing	<input type="checkbox"/> change wound dressing	<input type="checkbox"/> change wound dressing <input type="checkbox"/> remove drain after order	<input type="checkbox"/> remove wound staples after order

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