

GECKO Case Report Form (CRF)

Use with Appendix B (Data Dictionary) to help data collection.

REDCap unique ID	
Data collection period	

Section 1: Pre-operative data fields

Age	Sex	<input type="checkbox"/> M <input type="checkbox"/> F	ASA	<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V	BMI	___ . __ (1dp)	Frailty	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9
Comorbidities (Tick <u>all</u> that apply)	<input type="checkbox"/> MI <input type="checkbox"/> CHF <input type="checkbox"/> PVD <input type="checkbox"/> CVA/TIA <input type="checkbox"/> Dementia <input type="checkbox"/> COPD <input type="checkbox"/> CTD <input type="checkbox"/> PUD <input type="checkbox"/> Hemiplegia <input type="checkbox"/> Leukaemia <input type="checkbox"/> Lymphoma <input type="checkbox"/> AIDS						History of prior attacks of cholecystitis or cholangitis	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Diabetes mellitus	<input type="checkbox"/> Diet controlled <input type="checkbox"/> Uncomplicated <input type="checkbox"/> End-organ damage						
	Liver disease	<input type="checkbox"/> Mild <input type="checkbox"/> Moderate <input type="checkbox"/> Severe						
	CKD	<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IV <input type="checkbox"/> V						
Solid tumour	<input type="checkbox"/> Localised <input type="checkbox"/> Metastatic					Number of admissions with biliary symptoms in previous 12 months prior to surgery	--	
<input type="checkbox"/> None of the Above								
Preoperative imaging (Tick <u>all</u> that apply)	USS: <input type="checkbox"/> Yes <input type="checkbox"/> No - not available <input type="checkbox"/> No - not indicated <input type="checkbox"/> No - patient declined <input type="checkbox"/> Unknown CT: <input type="checkbox"/> Yes <input type="checkbox"/> No: not available <input type="checkbox"/> No: not indicated <input type="checkbox"/> No: patient declined <input type="checkbox"/> Unknown MRCP: <input type="checkbox"/> Yes <input type="checkbox"/> No: not available <input type="checkbox"/> No: not indicated <input type="checkbox"/> No: patient declined <input type="checkbox"/> Unknown ERCP: <input type="checkbox"/> Yes <input type="checkbox"/> No: not available <input type="checkbox"/> No: not indicated <input type="checkbox"/> No: patient declined <input type="checkbox"/> Unknown EUS: <input type="checkbox"/> Yes <input type="checkbox"/> No: not available <input type="checkbox"/> No: not indicated <input type="checkbox"/> No: patient declined <input type="checkbox"/> Unknown HIDA: <input type="checkbox"/> Yes <input type="checkbox"/> No: not available <input type="checkbox"/> No: not indicated <input type="checkbox"/> No: patient declined <input type="checkbox"/> Unknown							
Imaging findings	<input type="checkbox"/> Gallstones <input type="checkbox"/> Thick-walled gallbladder <input type="checkbox"/> Pericholecystic fluid <input type="checkbox"/> CBD stones <input type="checkbox"/> Dilated CBD (Diameter: ___ . ___ mm (1dp))							
Days between	First symptom onset and diagnosis: ___	Diagnosis and decision to operate: ___	Decision to operate and surgery: ___	Urgency of surgery	<input type="checkbox"/> Elective <input type="checkbox"/> Delayed <input type="checkbox"/> Emergency (patient was on elective waiting list? <input type="checkbox"/> Yes <input type="checkbox"/> No)			
Indication for surgery	<input type="checkbox"/> Acute calculous cholecystitis (Tokyo grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III; Was Tokyo grade documented in notes: <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> Biliary colic <input type="checkbox"/> Acalculous cholecystitis <input type="checkbox"/> Chronic cholecystitis <input type="checkbox"/> CBD stone <input type="checkbox"/> Polyp <input type="checkbox"/> Dyskinesia <input type="checkbox"/> Gallstone pancreatitis (Atlanta criteria: <input type="checkbox"/> Mild <input type="checkbox"/> Mod <input type="checkbox"/> Severe; Was Atlanta criteria documented in notes: <input type="checkbox"/> Yes <input type="checkbox"/> No)							

Section 2: Intraoperative data fields

Mode of anaesthesia (Tick <u>all</u> that apply)	<input type="checkbox"/> Local (Route: <input type="checkbox"/> Subcutaneous <input type="checkbox"/> Intraperitoneal) <input type="checkbox"/> Regional (Route: <input type="checkbox"/> spine-related <input type="checkbox"/> regional nerve block) <input type="checkbox"/> Sedation <input type="checkbox"/> General inhaled (Type: <input type="checkbox"/> sevoflurane <input type="checkbox"/> halothane <input type="checkbox"/> desflurane <input type="checkbox"/> N2O <input type="checkbox"/> isoflurane) <input type="checkbox"/> Total Intravenous Volatile Anaesthetic			Intraoperative antibiotics	<input type="checkbox"/> Yes - Prophylactic <input type="checkbox"/> Yes - Intra-op spillage <input type="checkbox"/> Yes - cholecystitis <input type="checkbox"/> No		
Primary operator	<input type="checkbox"/> Consultant or attending (Specialty: <input type="checkbox"/> General <input type="checkbox"/> OG <input type="checkbox"/> HPB <input type="checkbox"/> Colorectal <input type="checkbox"/> Breast <input type="checkbox"/> Vascular <input type="checkbox"/> Other) <input type="checkbox"/> Surgical trainee (Grade: <input type="checkbox"/> Senior <input type="checkbox"/> Junior; Training operation? <input type="checkbox"/> Yes <input type="checkbox"/> No; Consultant present? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> Non-surgeon Number of cholecystectomies performed by primary surgeon prior to this procedure: <input type="checkbox"/> 0-50 <input type="checkbox"/> 51-100 <input type="checkbox"/> 101-200 <input type="checkbox"/> >200						
Operative approach	<input type="checkbox"/> Open (Why? <input type="checkbox"/> No laparoscopy <input type="checkbox"/> Surgeon not trained in laparoscopy <input type="checkbox"/> Laparoscopy broken <input type="checkbox"/> Previous surgeries <input type="checkbox"/> Disease severity) <input type="checkbox"/> Laparoscopic (Type: <input type="checkbox"/> Standard <input type="checkbox"/> SILS; Converted to open? <input type="checkbox"/> Yes <input type="checkbox"/> No; Gasless? <input type="checkbox"/> Yes <input type="checkbox"/> No; Reusable equipment: <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> Robotic (Type: <input type="checkbox"/> Standard <input type="checkbox"/> SILS; Converted to open? <input type="checkbox"/> Yes <input type="checkbox"/> No; Gasless? <input type="checkbox"/> Yes <input type="checkbox"/> No; Reusable equipment: <input type="checkbox"/> Yes <input type="checkbox"/> No) If converted to open, why? <input type="checkbox"/> Suboptimal view <input type="checkbox"/> Adhesions <input type="checkbox"/> Unable to safely dissect CVS <input type="checkbox"/> Suspected BDI <input type="checkbox"/> Pneumoperitoneum not tolerated <input type="checkbox"/> Bleeding <input type="checkbox"/> Bowel injury <input type="checkbox"/> Equipment failure <input type="checkbox"/> Suspected or actual cholecystoduodenal or cholecystocolonic fistula						
Intraoperative difficulty (Nassar)	<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V	CVS obtained successfully?	If No, which criteria was met? <input type="checkbox"/> Clearance of the hepatocystic triangle <input type="checkbox"/> Exposure of the lower cystic plate <input type="checkbox"/> Only two structures are attached to the gallbladder			Was there a time-out to verify CVS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Operation performed	<input type="checkbox"/> Total cholecystectomy (Type: <input type="checkbox"/> Standard <input type="checkbox"/> Fundus-first approach) <input type="checkbox"/> Subtotal cholecystectomy (Type: <input type="checkbox"/> Reconstituting <input type="checkbox"/> Fenestrated) <input type="checkbox"/> Not performed (<input type="checkbox"/> Diagnostic laparoscopy <input type="checkbox"/> Cholecystostomy)			Abdominal drain	<input type="checkbox"/> Yes <input type="checkbox"/> No	Anatomical biliary variant	<input type="checkbox"/> Yes <input type="checkbox"/> No
Intraoperative CBD assessment (Tick <u>all</u> that apply)	<input type="checkbox"/> Intraoperative cholangiogram <input type="checkbox"/> Incisionless fluorescent cholangiography <input type="checkbox"/> Laparoscopic US Decision: <input type="checkbox"/> Selective <input type="checkbox"/> Routine; If selective, indication: <input type="checkbox"/> Raised LFT <input type="checkbox"/> BDI concern <input type="checkbox"/> Pre-op imaging suggests CBD stone Findings: <input type="checkbox"/> Stone <input type="checkbox"/> No stone; If stone, management: <input type="checkbox"/> Flushing with saline and smooth muscle relaxant <input type="checkbox"/> Fogarty catheter trawl <input type="checkbox"/> Basket retrieval <input type="checkbox"/> Choledochoscope <input type="checkbox"/> No intraoperative treatment attempted						
CBD exploration	<input type="checkbox"/> Yes (Type: <input type="checkbox"/> Trancystic <input type="checkbox"/> Choledochotomy; If Choledochotomy, closure: <input type="checkbox"/> Primary closure <input type="checkbox"/> T-tube) <input type="checkbox"/> No			Operative contamination	<input type="checkbox"/> Clean <input type="checkbox"/> Clean-Contaminated <input type="checkbox"/> Contaminated <input type="checkbox"/> Dirty		
Intraoperative complications - excluding BDI (see section 4)	<input type="checkbox"/> Bile spilt <input type="checkbox"/> Stones Spilt <input type="checkbox"/> Bleeding <input type="checkbox"/> Major vascular injury <input type="checkbox"/> Bowel injury		Reusable gowns	<input type="checkbox"/> Yes (<input type="checkbox"/> All staff <input type="checkbox"/> some staff) <input type="checkbox"/> No		Reusable drapes	<input type="checkbox"/> Yes <input type="checkbox"/> No

Section 3: 30-day outcomes

Highest 30-day Clavien-Dindo (CD)	<input type="checkbox"/> 0 <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa (Radiological drainage? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> IIIb (Re-operation? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V (Postop day of death: ___)	Critical care admission	<input type="checkbox"/> Yes (Length of stay: ___) <input type="checkbox"/> No	Re-imaging	<input type="checkbox"/> Yes (Type: <input type="checkbox"/> USS <input type="checkbox"/> CT <input type="checkbox"/> MRI <input type="checkbox"/> ERCP) <input type="checkbox"/> No
30-day postoperative Complications (Tick <u>all</u> that apply)	<input type="checkbox"/> Surgical site infection (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Pulmonary complications (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Bile leak (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Bleeding (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Intra-abdominal collection (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Acute pancreatitis (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V)				
Length of stay	<input type="checkbox"/> Same day discharge <input type="checkbox"/> Admitted (Number of days inpatient: ___)		30-day Readmission	<input type="checkbox"/> Yes (Length of stay: ___) <input type="checkbox"/> No	

Section 4: BDI data fields						
BDI identified within 30-days of index cholecystectomy	<input type="checkbox"/> Yes (if yes, please fill in the rest of the data points below) <input type="checkbox"/> No (Was BDI identified within one-year of index cholecystectomy: <input type="checkbox"/> Yes <input type="checkbox"/> No (if yes, please fill in the rest of the data points below))					
Presentation of BDI	<input type="checkbox"/> Intraoperatively <input type="checkbox"/> Controlled bile leak from abdominal drain <input type="checkbox"/> Abdominal pain due to uncontrolled bile leak <input type="checkbox"/> Obstructive jaundice or cholangitis <input type="checkbox"/> Intra-abdominal abscess or biloma			Days from index cholecystectomy to diagnosis (0 = intraoperatively)	--	
BDI grade (Strasberg)	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E1 <input type="checkbox"/> E2 <input type="checkbox"/> E3 <input type="checkbox"/> E4 <input type="checkbox"/> E5	Concomitant vascular injury	<input type="checkbox"/> Yes (<input type="checkbox"/> Right hepatic artery <input type="checkbox"/> Common hepatic artery <input type="checkbox"/> Main portal vein <input type="checkbox"/> Right portal vein) <input type="checkbox"/> No			
Imaging modality to investigate and confirm BDI	<input type="checkbox"/> None <input type="checkbox"/> OTC <input type="checkbox"/> USS <input type="checkbox"/> MRCP <input type="checkbox"/> CT <input type="checkbox"/> ERCP <input type="checkbox"/> PTC <input type="checkbox"/> Nuclear medicine scan <input type="checkbox"/> Functional liver scan <input type="checkbox"/> Tubogram		Discussion with specialist HPB centre	<input type="checkbox"/> Yes (Days from injury to referral: __; Transferred? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> No <input type="checkbox"/> Not required - Injury occurred at specialist HPB centre		
Management of BDI (Tick all that apply)	<input type="checkbox"/> ERCP alone (Days after index cholecystectomy: __) <input type="checkbox"/> ERCP and stent (Days after index cholecystectomy: __) <input type="checkbox"/> PTC (Days after index cholecystectomy: __) <input type="checkbox"/> Washout only (Days after index cholecystectomy: __) <input type="checkbox"/> Surgical repair (Days after index cholecystectomy: __)					
Specialty of surgeon performing BDI repair	<input type="checkbox"/> HPB surgeon <input type="checkbox"/> UGI surgeon <input type="checkbox"/> General surgeon	Method of repair	<input type="checkbox"/> Roux-en-Y Hepaticojejunostomy <input type="checkbox"/> CBD repair without T-tube <input type="checkbox"/> CBD repair with T-tube <input type="checkbox"/> CBD end to end anastomosis <input type="checkbox"/> Hepaticoduodenostomy	Vascular repair	<input type="checkbox"/> Yes <input type="checkbox"/> No	
One-year complications (Tick all that apply)	<input type="checkbox"/> Stricture formation (Days from repair to complication: __) <input type="checkbox"/> Cholangitis (Days from repair to complication: __) Anastomotic leakage (Days from repair to complication: __) <input type="checkbox"/> Intra-abdominal abscess or biloma (Days from repair to complication: __) <input type="checkbox"/> Re-repair (Days from repair to complication: __)				} If BDI surgical repair	
Section 5: Histology data fields						
Postoperative histology	<input type="checkbox"/> Not sent for examination <input type="checkbox"/> Sent for examination (Indication: <input type="checkbox"/> Routine <input type="checkbox"/> Selective; Days from index cholecystectomy to histology result: __; Result: <input type="checkbox"/> Benign <input type="checkbox"/> Malignant (if malignant, please fill in the rest of the data points below))					
Staging modality	<input type="checkbox"/> CT thorax abdomen pelvis (Days from histology to staging: __) <input type="checkbox"/> MRI liver (Days from histology to staging: __) <input type="checkbox"/> PET-CT (Days from histology to staging: __) <input type="checkbox"/> Staging laparoscopy (Days from histology to staging: __)					
TNM grade (AJCC 8 th edition)	T category: <input type="checkbox"/> Tis <input type="checkbox"/> T1a (lamina propria) <input type="checkbox"/> T1b (muscularis) <input type="checkbox"/> T2a (peritoneal side) <input type="checkbox"/> T2b (hepatic side) <input type="checkbox"/> T3 <input type="checkbox"/> T4 N category: <input type="checkbox"/> N0 <input type="checkbox"/> N1 (1-3 nodes) <input type="checkbox"/> N2 (>3 nodes) M category: <input type="checkbox"/> M0 <input type="checkbox"/> M1					
Discussed at MDT	<input type="checkbox"/> Yes <input type="checkbox"/> No	Adjuvant treatment	<input type="checkbox"/> No <input type="checkbox"/> Chemotherapy <input type="checkbox"/> Radiotherapy			
Revisional surgery	<input type="checkbox"/> Yes <input type="checkbox"/> No - not required <input type="checkbox"/> No - unresectable tumour					
Type of revisional surgery (Tick all that apply)	<input type="checkbox"/> Liver resection (Extent: <input type="checkbox"/> Liver bed <input type="checkbox"/> 1 segment <input type="checkbox"/> 2 segments <input type="checkbox"/> ≥3 segments) <input type="checkbox"/> Bile duct resection <input type="checkbox"/> Lymph node dissection		Days from histology result to revisional surgery	--		
Pathology results	Resection margin status: <input type="checkbox"/> R0 <input type="checkbox"/> R1 <input type="checkbox"/> R2 Lymphovascular invasion: <input type="checkbox"/> Yes <input type="checkbox"/> No Perineural invasion: <input type="checkbox"/> Yes <input type="checkbox"/> No				} If revisional surgery	
Recurrence on imaging at one year	<input type="checkbox"/> Yes (Days from revisional surgery to recurrence: __) <input type="checkbox"/> No					
Section 6: One-year outcomes						
Highest one-year Clavien-Dindo (CD)	<input type="checkbox"/> 0 <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa (Radiological drainage? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> IIIb (Re-operation? <input type="checkbox"/> Yes <input type="checkbox"/> No) <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V (Postop day of death: __)		Total number of readmissions	--		
One-year complications (Tick all that apply)	<input type="checkbox"/> Surgical site infection (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Pulmonary complications (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Bile leak (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Biliary stricture (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Bleeding (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Intra-abdominal collection (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V) <input type="checkbox"/> Acute pancreatitis (CD Grade: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> IIIa <input type="checkbox"/> IIIb <input type="checkbox"/> IVa <input type="checkbox"/> IVb <input type="checkbox"/> V)					