IMIGASTRIC SOFTWARE GUIDE



After User registration, the IMIGASTRIC system sends you an email with your username and password.

Now you can access the login page at:

http://demo.logix-software.it:8080/richi/pages/index.xhtml

IMIGASTRIC STUDY [DEMO version]								
Username								
Password								
Login								

Here you can enter your personal username and password to access the protected website.

THE MAIN MENU

The main menu allows you to access different sections:

- Patients
- Guidelines
- Pubblications
- Support



By clicking on "Patients", you can access the patient list.

	IMIGASTRIC STUDY [DEMO version]				
	Center No.: 1 Institution: St. Maria Hospital User: jacopo.desiderio Operator: Jacopo Desiderio		Logout	Account	Change password
1					
		itatistics			
	Operators:	3			
	Patients:	2			
	Patients demographics:	1/2			
	Patients with data of surgical procedure details:	1/2			
	Patients with data of tumor details:	1/2			
	Patients with data of post-operative clinical findings:	1/2			
	Patients with data of post-operative daily clinical findings:	0/2			
	Patients with data of in-hospital post-operative complications:	0/2			
	Patients with data of surgical complications after discharge:	1/2			
	Patients with data of follow-up:	0/2			



By clicking the insert button, you can access the patient's registration form.

It generates a patient reference code.

INSERT PATIENT DATA

Patients → Guidelir	ies ▶ Pubblications ▶ Support
	Patients
	Patient
Name	
Surname	
Month/Day of birth (mm/dd)	
Year of birth * (уууу)	It is mandatory data
Medical Record Number (MRN)	
	 ELIGIBILITY Inclusion criteria: Histological proven grastic cancer Preoperative staging work-up performedby upper endoscopy, endoscopic ultrasound, and CT scan Early Gastric Cancer Advanced Gastric Cancer Patients treated with curative intent in accordance to international guidelines Exclusion criteria: Locally adanced tumor infiltrating neightboring organs Distant metastase: preitoneal carcinomatosis, liver metastases, distant lymph node metastases, Krukenberg tumors, involvement of other organs Patientswith high operative risk as defined by the Americans Society of Anesthesiologists (ASA) sore ≥ 4 History of gastric surgery Remnant gastric cancer Synchronous malignancy in other organs Palliative surgery cases
	Accept eligibility After you have reviewed the eligibility criteria for the patient's inclusion, check

The only required data is the patient's year of birth (to calculate patient's age at surgery).

Name, Surname, Month/Day of birth <u>are not mandatory</u>. There is also the possibility to insert the MRN (it could aid in tracking the patient).

IMPORTANT: in any case, <u>the name and date of birth are not memorized after registration</u>. The user is the sole person that is able to associate the patient's reference code with the patient's name.

If you insert the patient's name and surname, the reference code will be made based upon that data (using also the date of birth). An email will be sent with both the patient's name and registration code. Also, if the name and surname are inserted, the patient data can always be found by using <u>"Patient search"</u>. If, instead, the patient's name and surname are not inserted, the reference code is made up randomly, and the patient reference code will not be able to be found by using "Patient search". It can only be found if the User had written down the patient's reference code at the time of creating the chart.

PATIENT CHART

IMIGA STRIC STUDY [DE	MO version]								
Center No.: 1 Institution: St. Maria Hospital Logout User: jacopo.desiderio Operator: Jacopo Desiderio Account Change password									
\pm > Patients > Guidelines > Pubblications > Support									
Patient									
Code: IMG01-00005 Medical Record Number (M	INR): -			Year of bir	rth: 1950				
Patient demographics	Surgery	Tumor	Post-surgery	After discharge	Follow-up				
Patient demographics Chart menu: you car by clicking different	s No c n enter data t sections	lata	Upd	ate					

The chart menu allows you to access different sections for data entry:

- Patient demographics
- Surgery
- Tumor
- Post-surgery
- After discharge
- Follow-up

The different sections can be filled out independently each other and the user can follow different filling orders (e.g. starting from "tumor").

• PATIENT DEMOGRAPHICS

		Patient			By clic
Code: IMG01-00003 Medical Record Number (N	INR): 12345		Ye	ar of birth: 1960	demo
Patient demographics	Surgery Tum	or Post-surgery	After discharge	Follow-up	
Patient demographics	5				
	No data				
		Upo	late clicking enter or	here you can update data on	
			patient d	emographics	
Pati	ent demographics	Surgery Tumor	Post-surgery	After discharge	Follow-up
		Pa	tient demographics		
	Sex *]		
Mandatory data	Weight (kg)				
Ν,	Height (cm)				
	Surgical risk (ASA score	e) *			
E	Blood type	T			
1	Smoker	T)		
	Concomitant illness	T]		
	Previous abdominal surg	gery Gynecologic pro Appendectomy Cholecystectomy	cedure		
	Staging laparoscopy	T			
	Peritoneal lavage cytolo	gy 🛛 🔻			
1	Neoaudiuvant chemotera	ру			
	Per-operative sample	5			
	Hemoglobin levels (g/dl)				
	White blood cell cour (billion cells/L)	nt (WBC)			
	Granulocytes (billion cells/L)				
	Lymphocytes (billion cells/L)				
	Plasma levels of tota (mg/dL)	I bilirubin			
	Save Cancel	After saving, other section	you can access s on the chart me	111	

By clicking on update, you can access the patient demographics form.

Sex and surgical risk are the only mandatory data. However more accurately is the data entering and more information will be available for the statistical analysis.

By entering the preoperative blood samples values, the system can automatically compare them with the post-operative blood samples values (however, these data are not mandatory).

The system automatically calculates patient's BMI if you add weight and height.

The system automatically calculates G/L ratio if you add Granulocytes and Limphocytes values.

After saving information, you return to the patient chart menu where you are able to review all previously entered information.

Now you can access another section or update data or return to the patient list or logout.



SURGERY



By clicking on update, you can access the "surgical procedure details" form.

Su	rgical procedure details	1	
Operation date * (yyyy/mm/dd)		If you che appears. J the surge	eck the robotic approach, a specifi It permits you to specify which pan ery was performed with the robot.
Type of surgical approach *	🔘 open 🔵 laparoscop	robotic	angicar steps can be selected
Gastric resection *	 Total gastrectomy Distal gastrectomy 		 open laparoscopy rob Gastric mobilization Lymphadenectomy
ype of reconstruction"	Pylorus-preserving gast	rectomy	Reconstruction
lected type of Gastric resection.	Proximal gastrectomy		
Type of recostruction *			
Anastomosis approach *			
Anastomosis performance *	· · · · ·		
Reinforcement of the duodenal stump		•	
Extend of lymphadenectomy *			
Combined resection	gallbladder spleen		
Site of minilaparontomy *		¥	
Lenght of minilaparotomy (cm)			
Placement of intra-abdominal drain	•		
Placement of nasograstric tube			
Total operative time (min)*			
Robot docking time (min)			
Estimated blood loss (ml)			
Conversion to open surgery *	T		
Intraoperative complications *			
Intraoperative death *	•		
Proximal resection margin (cm)			
Distal resection margin (cm)		Here, you can choos the total number of l	e to enter only ymph nodes ympara
Surgical margin status *		detailed number (by "detailed"). The latt auspicable but not m	clicking on er option is andatory.
Number of retrieved lymph nodes*	Total Detailed Total Perigastric Constant Cons	After clicking on de enter peri- and extra number of nodes (in total number is auto calculated from thei	etailed, you can a-gastric this case the matically r sum)

After saving information, you return to the patient chart menu, where you are able to see all previously entered information.

Now you can access another section or update data or return to the patient list or logout.

• TUMOR

IMIGASTRIC STUDY [DEMO version]	IMIGASTRIC STUDY [DEMO version]
Center No.: 1 Institution: St. Maria Hospital Logout Account Change password User: jacopo.desiderio Operator: Jacopo Desiderio	Center No.: 1 Institution: St. Haria Hospital Logout Account Change password User: jacopo.desiderio Operator: Jacopo Desiderio
≜ → Patients → Guidelines → Pubblications → Support	≜ → Patients → Guidelines → Pubblications → Support
Patient	Patient
Code: IM501-00003 Year of birth: 1960 Medical Record Number (MNR): 12345	Code: IMG01-00003 Year of birth: 1960 Medical Record Number (MNR): 12345
Patient demographics Surgery Tumor Post-surgery After discharge Follow-up	Patient demographics Surgery Tumor Post-surgery After discharge Follow-up
Surgical procedure details Operation date: 2015-01-05	Tumor
Type of surgical approach: robotic Gastrio resection: Total gastrectomy Type of recostruction: Roux-en-Y esophagojejunostomy Anastomosis approach: intra-corporeal Anastomosis peformance: robot-seen	No data Update
Neinforcement of the duodenal stump: just stapled Extend of lymphadenectomy: D2 Combined resection: gallbladder Site of minipaparotomy: KBUnney	
Length of minilaparointomy: Som Placement of intra-abdomila drain: Yes Placement of nasographic tube: No Total operative time: 300 min Robot dooking time: 35 min	
Estimated blood loss: 250m1 Conversion to open surgery: No Intraoperative earth: No Intraoperative educt: No	
Proximal resection margin: 4cm Distal resection margin: 5cm Margin: free of disease Number of retrieved lymph nodes: 25	
Update	
Patient demographics Surgery Tumor Post-surgery After discharge Follow-up	
Tumor	
Tumor location *	
Long diameter of tumor (cm)	
Depth of invasion (T classification) * The AJCC 7th edition	
Number of metastatic limph nodes	
Lymph node status (N classification) * NO to regional ymph node meta tatais N1 Meta stasis in 1 to 2 regional ymph nodes N2 Meta stasis in 3 to regional ymph nodes N3 Meta stasis in 7 or more regional ymph nodes	
Histological type	
Lauren classification	
Save Cancel	

After saving information you return to the patient chart menu, where you are able to see all previously entered information.

Now you can access another section or update data or return to the patient list or logout.

• POST-SURGERY

IMIGASTRIC STUDY [DEMO version]			IMIGASTRIC STUDY [DEMO version]
Center No.: 1 Institution: St. Maria Hospital User: jacopo.desiderio Operator: Jacopo Desiderio	Logout Account Change passwo	d	Center No.: 1 Institution: St. Maria Hospital User: jacopo.desiderio Operator: Jacopo Desiderio Logout Account Change password
Patient			Patient
Code: IMG01-00003 Medical Record Number (MNR): 12345	Year of birth: 1960		Code: IM601-00003 Year of birth: 1960 Medical Record Number (MNR): 12345
Patient demographics Surgery Tumor Post-surgery	After discharge Follow-up		Patient demographics Surgery Tumor Post-surgery After discharge Follow-up
Tumor loadion: Upper third Long Summer Son Long Summer Son Page of Immediant [classification]: T2 Number of metastatic imphysion code: 2 Lymp node status (N classification): R1 AUCC pathological stage: IIA Histological type: Moderately differentiated tubular Lauren classification: Intestinal type Upda	6	~	Post-operative clinical findings No data Update Post-operative daily clinical findings No data Update In-hospital post-operative complications Yes Update

When you click "post-surgery", a box with 3 sections appears:

- post-operative clinical findings
- post-operative daily clinical findings
- in-hospital post-operative complications

By clicking on update, you can access the sections and enter data.

○ POST-SURGERY \rightarrow POST-OPERATIVE CLINICAL FINDINGS

IMIGASTRIC STUDY [PEMO version]	
Center No.: 1 Institution: St. Naria Hospital User: jacopo. desiden:o Operator: Jacopo Desidenio	
Patent	Patient demographics Surgery Tumor Post-surgery After discharge Follow-up
Code: IN601-00005 Year of birth: 1950 Medical Record Number MNR(: -	Post-operative clinical findings
Patientdemographic: Surgery Tumor Post-surgery After discharge Follow-up	ERAS protocols adopted *
Postope alive ofinial findings	Length of postoperative hospital stays * Mandatory data
No data	Patient mobilization (postoperative day number)
Post-operative daiy of nical findings	Liquid diet (postoperative day number)
lio data	Soft solid diet (postoperative day number)
Update	Resumption of peristals is (postoperative day number)
In-hospital post-operative complications	First flatus (postoperative day number)
NC	Drain removal (postoperative day number)
Update	Length of intravenus antibiotic use (days)
	Length of intravenus analgesic use (daye)
	Save Cancel
	Post-operative daily clinical findings
	No data
	Update
*	In-hospital post-operative complications
	No
	BW73Bo#

After saving information, a summary box appears below the section heading.

Now you can access other sections.

IMIGASTRIC STUDY [DEMO version]	
Center No.: 1 Institution: St. Haria Hospital Logout Account Change password User: jacopo.desiderio Operator: Jacopo Desiderio	
Patient	
Code: IMG01-00005 Medical Record Number (MNR): -	
Patient demographics Surgery Tumor Post-surgery After discharge Follow-up	
Post-operative clinical findings ERAS protocols addreft. Yes Langth of post-operative days (days): 5 Patient mobilization (post-operative day number): 1 Liquid diet (post-operative day number): 3 Sot solid diet (post-operative day number): 3 Resumption operistatis (sob-operative day number): 2 Drain removal (post-operative day number): 1	
Length of intravenus antibiotic use: 2 days Length of intravenus analgesic use: 1 days	Post-operative daily clinical findings
Update	Post-operative daily clinical findings
Post-operative daily olinical findings	Post-operative day number (POD no.)
No data	Drain production (m)
Update	Hemoglobin Tevels (gidt)
In-hospital post-operative complications	White blood cell count (WBC) (billion celle/L)
No	Granudocytes (billon celsik)
	Lymphocytes (billion cell#/L)
	Plasma levels of total bilirubin
	No data
	Finish

○ POST-SURGERY \rightarrow POST-OPERATIVE DAILY CLINICAL FINDINGS

In this not mandatory section, you can enter data resulting from postoperative blood samples.

Here, you have to enter the post-operative day number (POD no.) in which data were recorded.

You can enter one or more values. Then, by clicking on "insert" you can save data and a row will appear below to summarize entered data.

More than one POD can be added following the same procedure (e.g. you can add values regarding the first, third and fifth POD).

By clicking on "Finish", you can end this section.

Post-operative daily clinical findings	Post-operative daily clinical findings
Post-operative daily clinical findings	Post-operative daily clinical findings
Post-operative day number (POD no.) 3	Post-operative day number (POD no.)
Drain production 60 First, you enter data	Drain production (mi) You can enter more than one POD reneating the same procedure
Hemoglobin levels 11	Hemoglobin levels
White blood cell count (WBC) 8	White blood cell count (WBC)
Granulocytes 3	Granulocytes (Billion cellet.)
Lymphocytes 2	Lymphocytes (billion cells/L)
Plasma levels of total bilirubin 0.5	Plasma levels of total bilirubin
Insert Then you click the "insert" button	Insert You can
POD no. Drain production Hemoglobin levels (g/d)	POD no. Drain production Hemoglobin levels White blood cell Granulocytes to Plasma levels g cult total bilinobidete POD
1 200.0 11.0 10.0 10.0 0.8 ²	(m) (get) cells(L) (mprocycls rate of (mg/dL) 1 200.0 11.0 10.0 10.0 0.8
Finish	50.0 11.0 8.0 1.5 0.5 a
Post-operative daily clinical findings	A row for each POD will appear summarizing data
Post-operative daily clinical findings	
Post-operative day number (POD no.)	
Drain production (m)	
Hemoglobin levels	
White blood cell count (WBC) (billion cell#/L)	
Granulocytes (billion cellin)	
Lymphocytes (https://www.selecture.com/	
Plasma levels of total bilirubin	
Insert	
POD no. Drain production Hemoglobin levels (g/dl) White blood cell count (WBC) (billion (ymphocytes to total bilirubin (g/dl) (mg/dL) (mg/dL)	
1 200.0 11.0 10.0 10.0 0.8 1	
3 50.0 11.0 8.0 1.5 0.5 ⁷	
5 12.0 5.0 2.5 0.5 ²	
Finish	You can click "Finish" to end this section

○ POST-SURGERY \rightarrow IN-HOSPITAL POST-OPERATIVE COMPLICATIONS

tient demo	ographics S	urgery	Tumor	Post-surgery	After discharge	Follow-up				
Post-oper- ERAS proto Length of p Patient mol Liquid diet Soft solid d Resumption First flatus Drain remo Length of ir Length of ir	ative clinical fin postoperative hosp bilization (post-operative (post-operative da liet (post-operative da liet (post-operative of peristalsis (po (post-operative da val (post-operative travenus antibioti travenus analgesi	dings ital stays (i erative day y number): e day numb ost-operativ ay number) e day numb c use: 2 d ic use: 1 d	(days): 5 r number): 1 : 1 ber): 3 ve day numbe : 2 ber): 1 days days	r): 1 Update						
Post-oper	ative daily clinio Drain production (ml)	Hemogl	gs Iobin levels (g/dl)	White blood cell count (WBC) (billion	Granulocytes to lymphocytes ratio	Plasma lev total bilirubin	els of (mg/dL)			
1	200.0		11.0	10.0	10.0	0.8			_	
3	50.0		11.0	8.0	1.5	0.5				In-hospital post-operative complications
5			12.0	5.0	2.5	0.5			6	
						l	Jpdate	1		In-hospital post-operative complications Hospital post-operative complications No Yes No data Save Here, an answer is
In-hospita	l post-operative	complica	ations							required
				No						No
							Jpdate			By clicking the button you end
										this section



• AFTER DISCHARGE

This form is similar to that explained for "In-hospital post-operative complications".

IMIGASTRIC	STUDY [DEMO ve	ersion]												
Center No.: 1 User: jacopo	Institution: St. Ma desiderio Opera	aria Hospital tor: Jacopo Desideri	.0	Log	out Account Change pas	ord								
≜ → Patients	→ Guidelines → Pu	bblications > Suppo	ort											
			Patient											
Code: IMG01-0 Medical Record	0005 d Number (MNR): -			Year of birth: 1	950		IMIGASTRIC	STUDY [DEN	MO version]	mital				
Patient demo	ographics Su	rgery Tumor	Post-surgery	After discharge	Follow-up		User: jacopo.	desiderio C	Operator: Jaco	opo Desider	io		ogout <u>Accour</u>	nt Change password
						1		Guidelines	Pubblicat	ions ⊧Supp	port			
Post-oper	rative clinical find	lings									Patient			
Length of p Patient mo	ocois adopted: Yes postoperative hospit obilization (post-ope	tal stays (days): 5 rative day number): 1			\mathbf{N}		Code: IMS01-00005 Year of birth: 1950 Medical Record Number (MNR): -							
Liquid diet Soft solid Resumptio	t (post-operative day diet (post-operative on of peristalsis (po	/ number): 1 day number): 3 st-operative day numbe	er): 1				Patient demo	graphics	Surgery	Tumor	Post-surgery	After discharge	Follow-up	
First flatus Drain rem Length of i	First flatus (post-operative day number): 2 Drain removal (post-operative day number): 1 Length of intravenus antibiotic use: 2 days						Surgical complications after discharge							
Length of i	intravenus analgesi	c use: 1 days	Undate	1			No							
Postona	rativo daily olinio	al findings	opaac										(Update
rostoper	lauve dany chinc	ar mungs	Million blood and											
POD no.	Drain production (ml)	Hemoglobin levels (g/dl)	count (WBC) (billion cells/L)	Granulocytes to lymphocytes ratio	Plasma levels of total bilirubin (mg/dL)									
1	200.0	11.0	10.0	10.0	0.8									
3	50.0	11.0	8.0	1.5	0.5									
		12.0	5.0	2.5	Update									
In-hospita	al post-operative	complications												
1	Type of complication Reoperation for complication Clavien - Dindo grade													
Anostom duodenal	Anostomosis leakage roux-en-y Yes IIID													
					Update									

Surgical complications after discharge	
Surgical complications after discharge	No data Save Here an answer is required
No	By clicking this button,

Surgical complications after discharge	
Surgical complications after discharge	
Surgical complications after discharge No data Save If there were complications, you have to check "Yes" and after click "Save"	
No	
Surgical complications after discharge	Surgical complications after discharge
Surgical complications after discharge No res No data Save	Surgical complications after discharge No () Yes No data Save
Date of occurence (yyyy/mmdd)	Date of occurrence (yyyy/mmidd) 2015-03-02
Type of complication Vou can specify the date and the type of complication complication	Type of complication Incisional hemia
Surgical intervention	Surgical intervention Yes ▼
insert	By clicking "Insert" you save this complication
Yes	Yes
Finish	Finish
Surgical complications after discharge	
Surgical complications after discharge No Yes No data Save	
Date of occurence (yyyy/mmidd)	
Type of complication The complication appears in a row.	
Surgical intervention Then you can add other complications or end this section by clicking on "Finish"	
Days of occurrence from surgery Type of complication Surgical intervention	
1454 Incisional hernia Yes Y	
Finish	

After saving information you return to the patient chart menu, where you are able to see all previously entered information.

Now you can access another section or update data or return to the patient list or logout.

• FOLLOW-UP

Data are not mandatory in this section, but they are useful for the study analysis.

IMIGASTRIC STUDY [DEMO versi		IMIGASTRIC STUDY [DEMO version]								
Center No.: 1 Institution: St. Maria User: jacopo.desiderio Operator:	d	Center No.: 1 Institution: St. Haria Hospital User: jacopo.desiderio Operator: Jacopo Desiderio								
	lications + Support		≜ → Patients → Guidelines → Pubblications → Support							
	Patient						Patient			
Code: IMG01-00005 Medical Record Number (MNR): -		Code: IMG01-00005 Year of birth: 1950 Medical Record Number (MNR): -								
Patient demographics Surge		Patient demographics	Surgery	Tumor	Post-surgery	After discharge	Follow-up			
Surgical complications after o	discharge			Follow up						
Days of occurrence from surgery Type of complication		Surgical intervention								
1454 Incisional hernia Yes			NO GATA							
		Update					Upda	ate		

	Follow									
Adjuvant chemo	therapy 🔹 🔻									
Date of last follo (yyyy/mm/dd)	Date of last follow up visit (yyyy/mm/dd)									
Patient alive or	Patient alive or not at last follow-up									
Disease-free or	not during follow-up									
Save	incel]						
-		/								
	Adjuvant chemotherapy									
	Date of last follow up visit (yyyy/mm/dd)									
	Patient alive or not at last follow-up									
	Disease-free or not during follow-up									
		Time to onet of	2014-03-07							
		Site of recurrence	Distant 🔻							
	Save Cancel									
	IMIGASTRIC									
	Center No.: 1 User: jacopo		Logout Account Change password							
	ת (Patients) ב									
	Code: IMG01-0 Medical Record	Year of	ar of birth: 1950							
	Patient demo	ographics Surgery	Tumor Post-surger	y After discha	rge Follow-up					
	Follow up									
	Adjuvant chemotherapy: Yes Date of last follow up visit: 2015-03-20 Patient alive or not at last follow-up: Yes Disease-free or not during follow-up: No Do: Chemotherapy Time to onet of recurrence: 2014-03-07 Site of recurrence: Distant Update									

After saving information you return to the patient chart menu, where you are able to see all previously entered information.

Now you can access another section or update data or return to the patient list or logout.

INFORMATION ON DATA SECURITY

The IMIGASTRIC system is designed in compliance with the most stringent regulations regarding privacy. In particular, the following points are emphasizez:

- Imigastric does not store any of the identification data of patients, such as: first name, last name, place of birth, date of birth, etc.;
- It is impossible to identify the patients surveyed in the system;
- It is impossible to associate clinical data with the identity of the patient;
- Each patient is uniquely identified by an automatically generated coded sequence;
- To minimize the possibility of error, it is possible to associate the MRN specifically assigned by the Institutes with the patient identifier;
- To minimize the possibility of error and simplify the search for and selection of a patient, the following discretionary instrument has been devised:
- If the first name, last name and date of birth are entered into the corresponding fields in the form while entering a patient into the registry, the system, using the hash functions, calculates a unique code and stores it in the database; the calculation procedure is not reversible and therefore does not allow for a backwards "reconstruction" of the data entered to produce said code;
- First name, last name and date of birth can, in this case, be re-entered into the patient search form and the
 patient can be identified with certainty by way of comparing the newly calculated code with the code
 stored in the database; the mechanism is similar to that used to manage encrypted user passwords;
- The personal data entered into the form at the point of creation of the patient file in the database is shown on the screen at the end of an entry (so the operator can take note of the association between the patient and the identifier assigned by the system), and then sent via email to the operators at that specific center; this data is then deleted without being temporarily or permanently stored;
- The data entered at the various centers may only be used for statistics and research;
- All user passwords are encrypted and stored in the system;
- A digital certificate will be associated with the production site to ensure the confidentiality of any communication between the placement of clients at the centers and our application server.