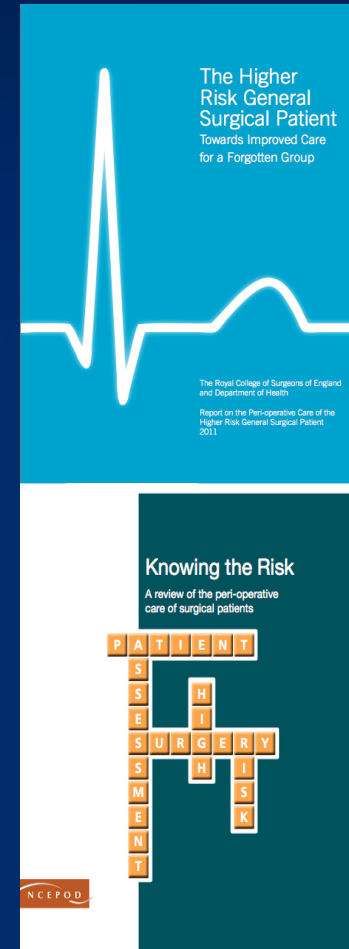


Emergency Laparotomies – The Guildford Experience

- **Background:**
 - Emergency Laparotomy Network (NHS Networks) (2010/11)
 - Higher Risk General Surgical Patient (2011)
 - RCS Emergency Surgery: Standards for Unscheduled Care (2011)
 - NCEPOD Knowing the Risk (2012)



Initial Results – Could do Better!

- Good at :
 - GDFT (63% of all cases, c.f. next best of 41%)
 - >ASA 3 + GDFT = reduction in LoS from 22 to 12 days
- But could do better:
 - Mortality 22.2% (c.f. Network mean of 14.9%)
 - A need to improve senior decision maker input
- Emergency Laparotomy Pathway developed

Table 3 Process and mortality variations between hospitals. GDFT, goal-directed fluid therapy; IQR, inter-quartile range. *No data supplied

Hospital	Number (n=1853)	Proportion consultant surg. (%) (n=1840)	Proportion consultant anaes (%) (n=1835)	GDFT (%) (n=1626)	Postoperative placement (%) (n=1789)				30 day mortality (%) (n=1819)
					Level 1	Level 2	Level 3	PACU	
Median	46	73.9	64.1	9.1	43.9	22.6	30.3	0.0	14.9
Range	8–184	40.6–100	25–100	0–63.0	0–68.9	0–74.5	9.7–87.5	0–35.0	3.6–41.7
IQR	30.5–68.8	60–5–81.9	55.8–76.3	0.6–21.7	27.4–55.2	11.4–33.4	22.5–37.9	0–0	11.0–22.2
AA	32	46.9	84.4	9.4	12.9	35.5	51.6	0.0	12.5
AC	23	60.9	60.9	9.1	52.2	8.7	34.8	4.3	9.1
AD	36	97.2	77.8	0.0	41.7	30.6	27.8	0.0	22.2
AE	106	74.5	66.0	21.7	61.3	9.4	29.2	0.0	10.4
AG	50	48.0	47.9	12.0	44.0	22.0	34.0	0.0	14.0
AH	17	76.5	35.3	11.8	23.5	52.9	23.5	0.0	23.5
AI	63	40.6	46.9	0.0	43.8	28.1	28.1	0.0	12.7
AJ	60	60.0	28.3	41.7	25.4	42.4	32.2	0.0	21.7
AK	94	88.3	62.8	7.4	19.1	41.5	38.3	1.1	19.0
AL	35	54.3	55.9	0.0	28.6	40.0	31.4	0.0	8.6
AM	45	80.0	84.4	2.3	60.0	22.2	15.6	2.2	6.7
AN	60	78.3	50.0	3.6	11.7	10.0	43.3	35.0	23.3
AO	66	69.7	75.8	28.8	54.5	4.5	28.8	12.1	12.3
AP	24	70.8	25.0	0.0	66.7	16.7	16.7	0.0	16.7
AQ	25	96.0	100.0	37.5	26.1	4.3	69.6	0.0	41.7
AR	71	58.0	88.4	11.8	67.1	22.9	10.0	0.0	11.3
AS	11	72.7	63.6	9.1	63.6	0.0	36.4	0.0	18.2
AT	38	73.7	71.1	0.0	55.3	7.9	36.8	0.0	28.9
AU	85	95.3	71.8	27.1	12.9	51.8	35.3	0.0	12.9
AV	69	85.1	74.2	7.4	40.3	25.4	34.3	0.0	12.3
AW	51	56.0	60.8	21.6	38.0	26.0	36.0	0.0	25.5
AX	136	52.9	56.6	34.8	61.8	18.0	19.1	1.1	7.4
AY	8	100.0	62.5	37.5	0.0	12.5	87.5	0.0	25.0
AZ	27	44.4	55.6	63.0	29.6	44.4	25.9	0.0	22.2
BA	38	73.7	65.8	0.0	44.7	13.2	42.1	0.0	22.9
BB	45	68.9	93.3	4.5	68.9	20.0	11.1	0.0	4.4
BC	37	78.4	86.5	0.0	40.5	2.7	56.8	0.0	27.8
BD	28	67.9	67.9	0.0	53.6	25.0	21.4	0.0	3.6
BE	52	94.2	98.1	9.6	28.8	32.7	38.5	0.0	15.7
BF	184	97.8	82.1	24.5	7.6	74.5	17.9	0.0	7.6
BG	26	80.8	73.9	*	60.0	28.0	12.0	0.0	23.1
BH	77	74.0	33.8	0.0	57.1	16.9	26.0	0.0	27.3
BI	45	91.1	57.8	11.1	35.6	26.7	37.8	0.0	13.3
BJ	58	65.3	50.0	4.1	49.0	10.2	28.6	12.2	13.3
BK	31	77.4	64.5	6.5	45.2	45.2	9.7	0.0	9.7

Emergency Laparotomy Pathway

- Pathway with elements of best practice
- Pre-operative preparation/resuscitation
- Perioperative optimisation
- Immediate postoperative list of goals in Critical Care
- Level 1/Surgical Ward daily goals
- Aide memoire
- Data capture for future audits

The document is a comprehensive clinical pathway for emergency laparotomy. It is divided into several key sections:

- Pre-operative information:** Includes patient details, risk factors (e.g., heart disease, diabetes), and surgical consultation notes.
- Goal Directed Therapy Algorithm:** A flowchart detailing the algorithm for goal-directed therapy, including targets for MAP, SpO2, and urine output.
- Intra-operative management:** Lists essential personnel (anesthetist, surgeon, etc.) and provides checklists for anesthetic and surgical site preparation.
- Post-operative management - Level 2 (ICU/PACU):** Details monitoring and management goals for the first 24 hours, such as maintaining MAP > 65 mmHg and SpO2 > 92%.
- Post-operative management - ADU (Level 1) Wards:** Outlines goals for the first 72 hours, including fluid balance, pain management, and early mobilization.
- GENERAL SURGERY:** A vertical section on the right side of the page, likely providing additional context or specific protocols for the surgical team.

Results from Pilot

- Data collected 3 months pre (control) and post (intervention) implementation of pathway
- Evolving process
- Heterogeneity of patient population makes adherence to ER elements challenging

	Control (48)	Intervention (53)
30 day mortality	20.8%	3.7%
Hospital Mortality	22.9%	3.7%
Post operative LOS (median (IQR))	11 (8-23) 21.9 (30.6, 3-148)	15 (9.5-35) 28.1 (32.2, 0-169)
Hospital LOS	15 (10-24) 24.9 (30.4, 3-148)	17 (11-35) 31.1 (33.6, 0-170)
ITU post op?	75%	71.7%
ITU LOS	4 (2-10) 7.5 (8.3, 1-37)	3 (2.5-10) 7.5(8.3, 1-37)
GDT intra-op?	47.9%	81.1%

Next Stage - ELPQuIC

- Change in Emphasis
 - Pathway document remains
 - Particularly useful for later stages of admission
 - Parallel use of 5 care bundles in early stage of admission
 - Early assessment & Recognition
 - Early antibiotics
 - Prompt diagnosis & early surgery
 - GDFT
 - Postoperative Critical Care for all
- Multicentre Quality Improvement Trial