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Enhanced Recovery After Discharge: does it happen?

Nader K Francis

ERAS-UK

Southampton

14th November 2014

Enhanced RECOVERY
ERAS Society (UK)

Systematic review

Systematic review of outcomes used to evaluate enhanced recovery after surgery

A. Neville[1], L. Lee[1], I. Antonescu[1], N. E. Mayo[2], M. C. Vassiliou[1], G. M. Fried[1] and L. S. Feldman[1]

BJS 2014

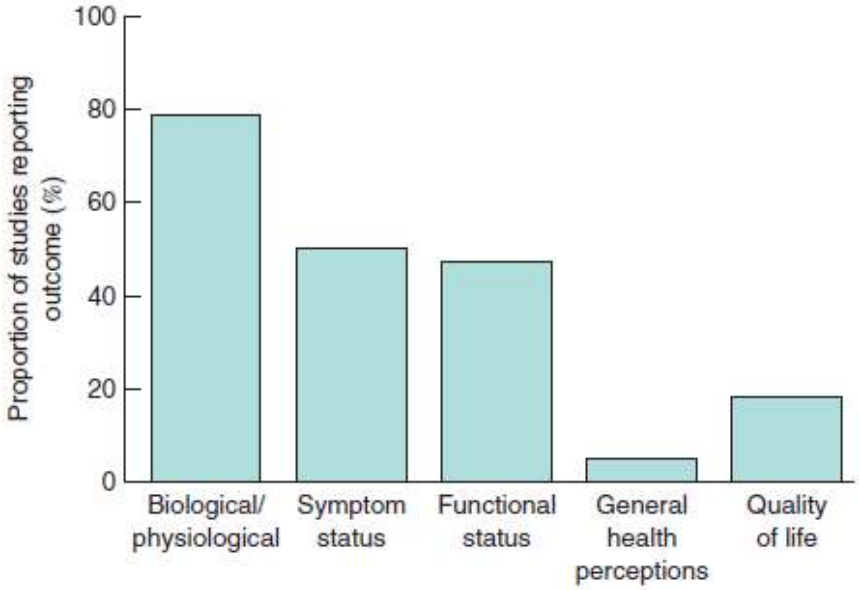

Table 3 Reported biological and physiological variables

	Frequency of reporting ($n = 38$)
Postoperative complications	35
Return of bowel function (flatus or stool)	25
Time to tolerate diet (predetermined type or number of meals)	21
Immunological measures	11
Pulmonary function	5
Stress response	4
Changes in body composition	3
Muscle strength	3
Nutritional indices	3
Resting energy expenditure	1
Cardiovascular function	1

Functional / symptoms

Length of hospital stay	**37**
Readmission	**29**
Pain	**16**
Fatigue	**9**

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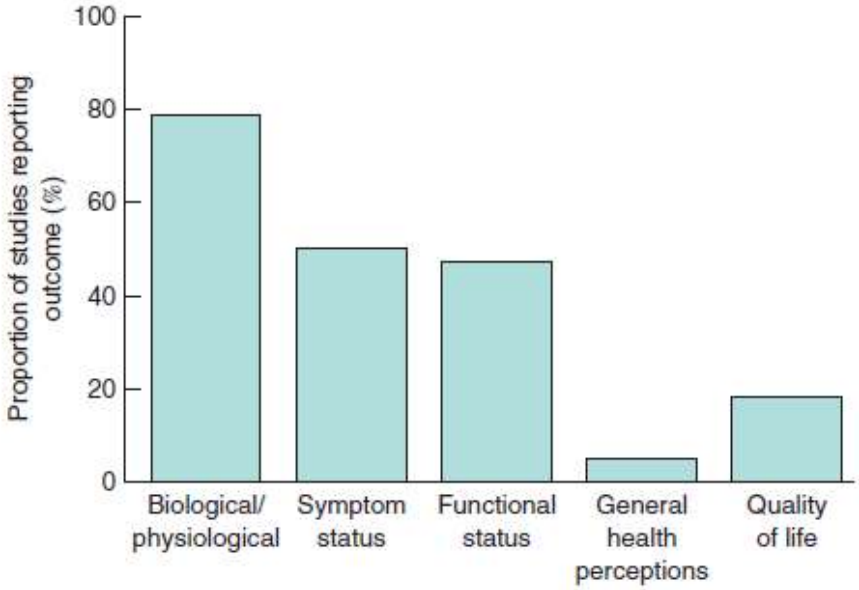

- **24 studies measured ERAS 30 days**
- **2 articles measured ERAS at 60 days**
- **1 study measured ERAS at 90 days**

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Functional Independence after Major Abdominal Surgery in the Elderly

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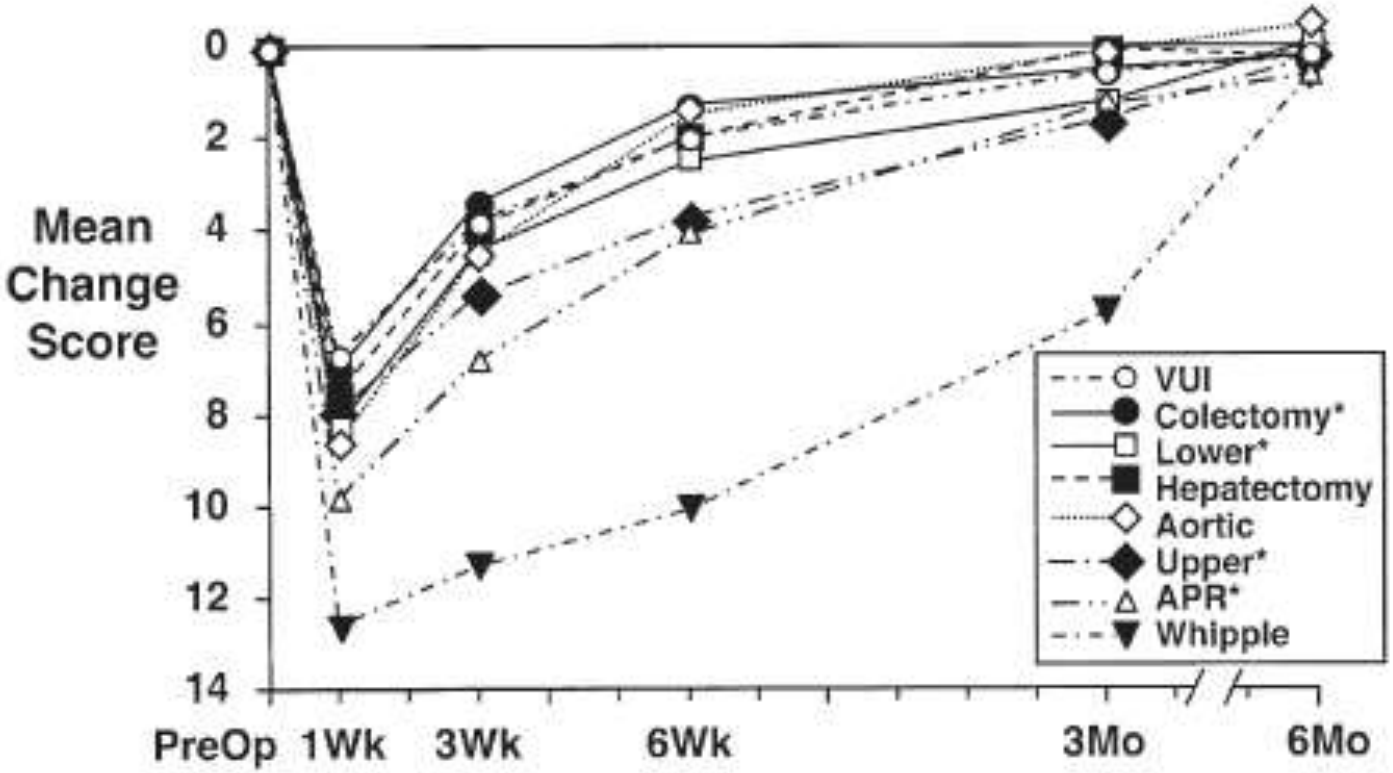

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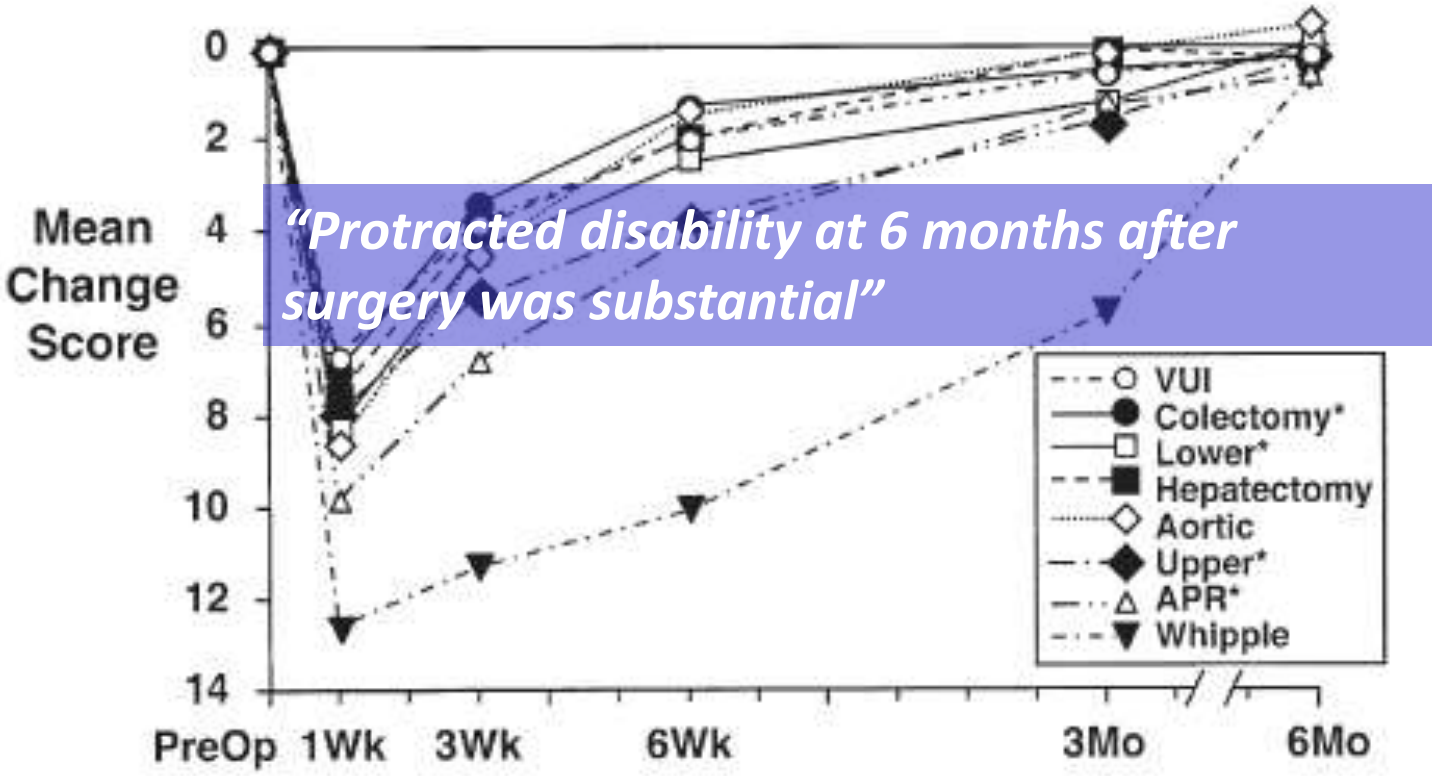
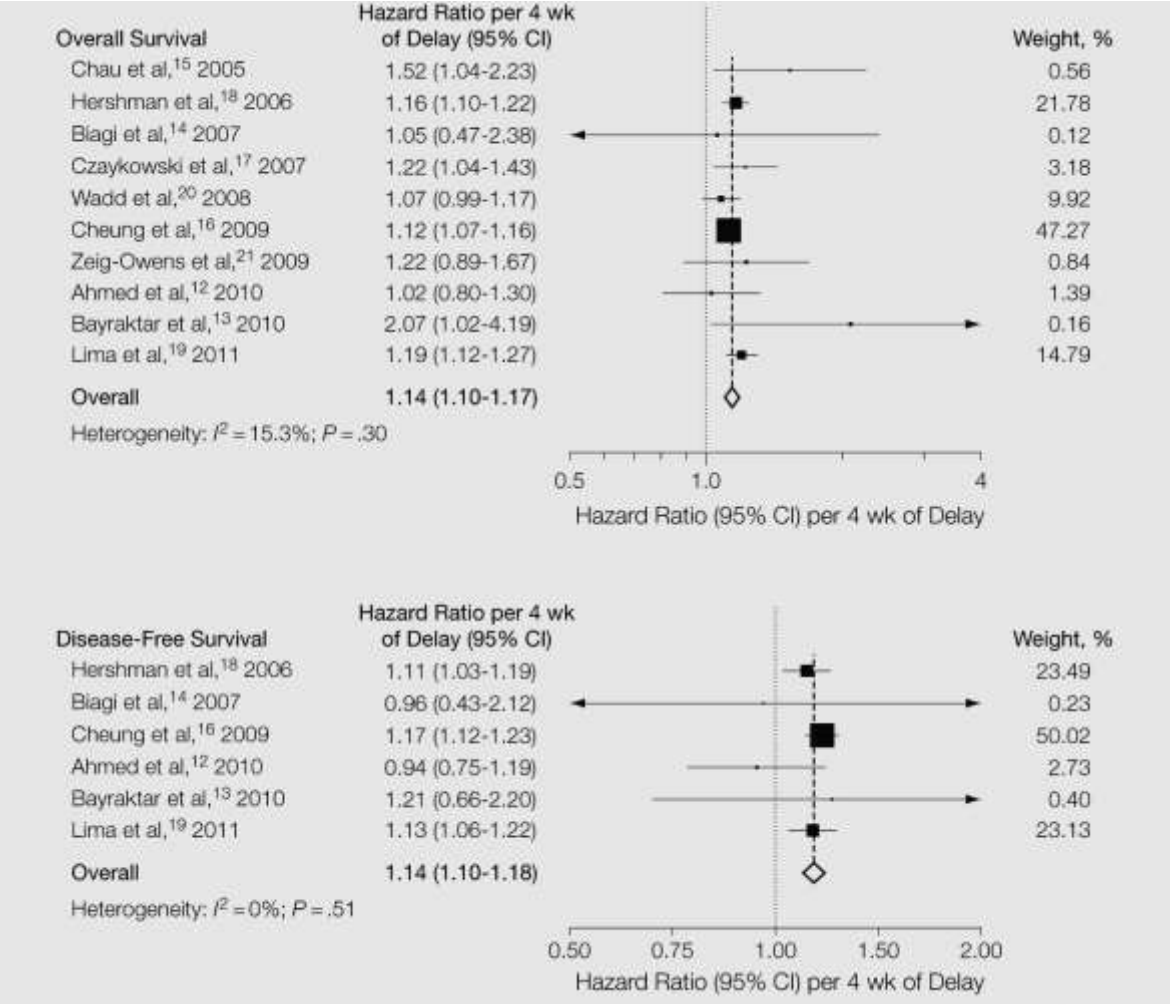


"Protracted disability at 6 months after surgery was substantial"

Association Between Time to Adjuvant Chemotherapy and Survival in Colorectal Cancer: Meta-analysis

Biagi, JAMA 2011



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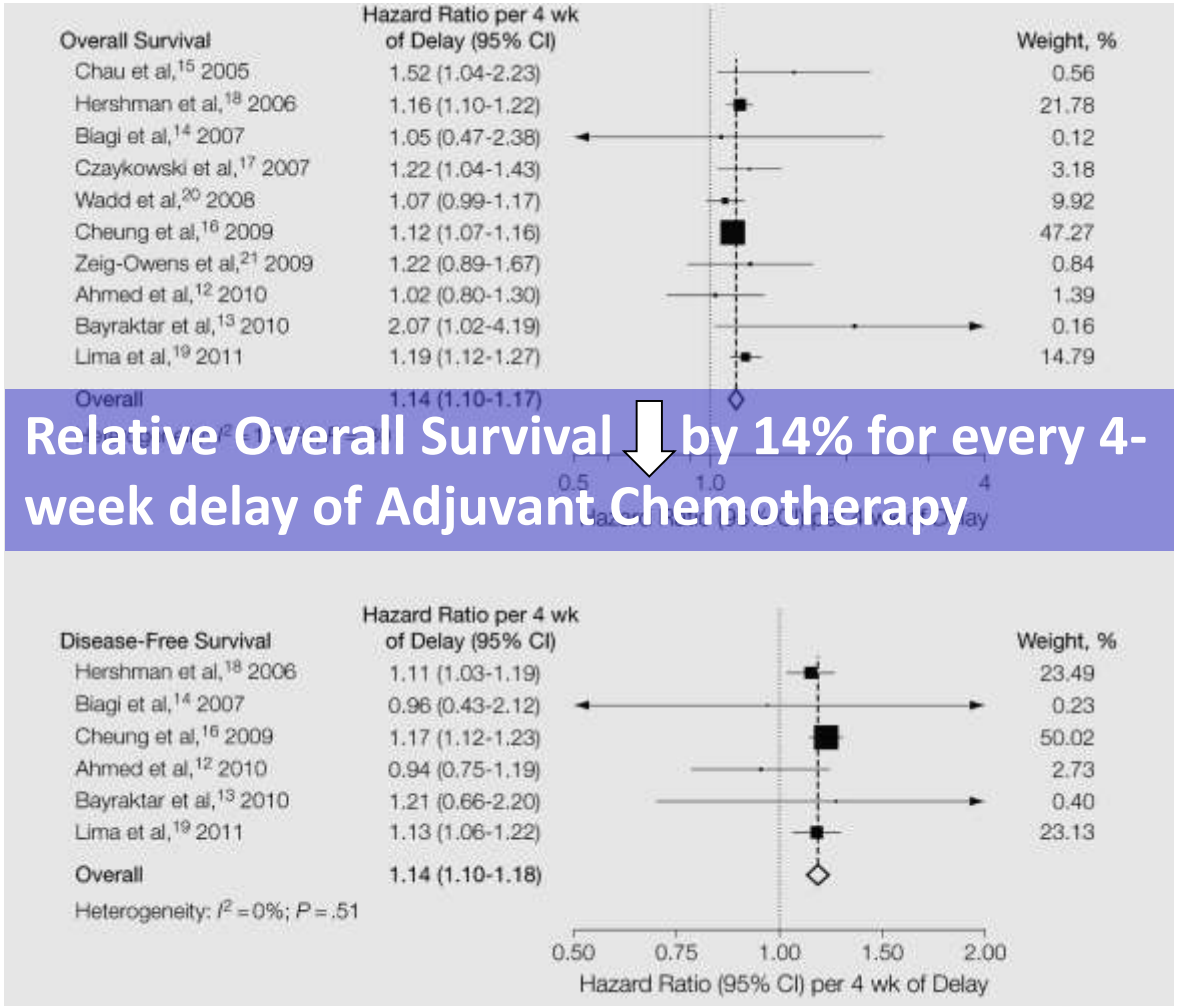

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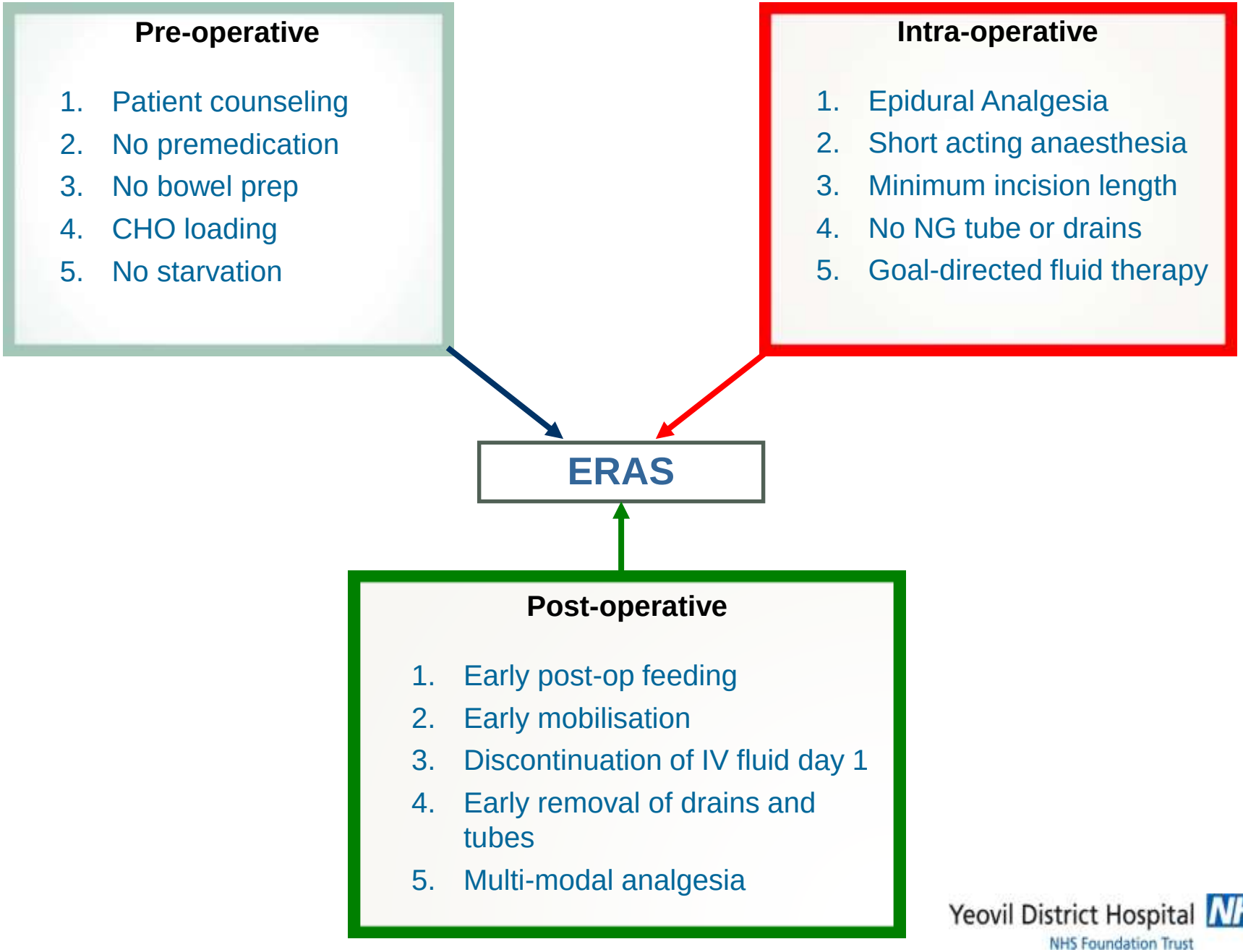
ERAS after discharge in colorectal cancer

- Hypothesis:

  Can improved preservation of organ functions in ERAS impact or predict long term outcomes?

- 275 colorectal cancer patients underwent laparoscopic surgery within ERAS at YDH

- Aim to investigate the long term impact of ERAS:
  - Timing of initiation of adjuvant chemotherapy
  - Oncological outcomes and long term survival



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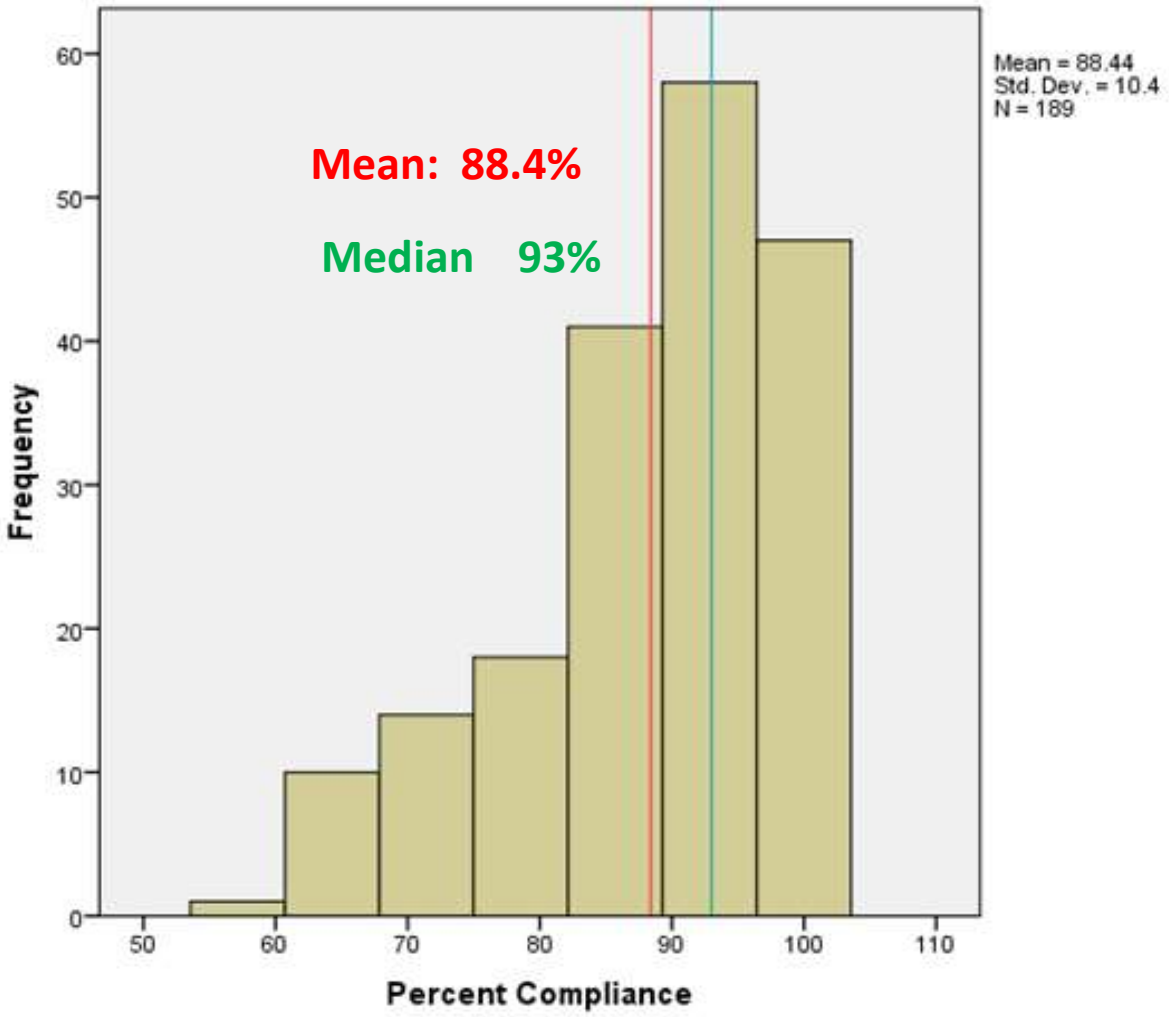
Compliance with ERAS at YDH



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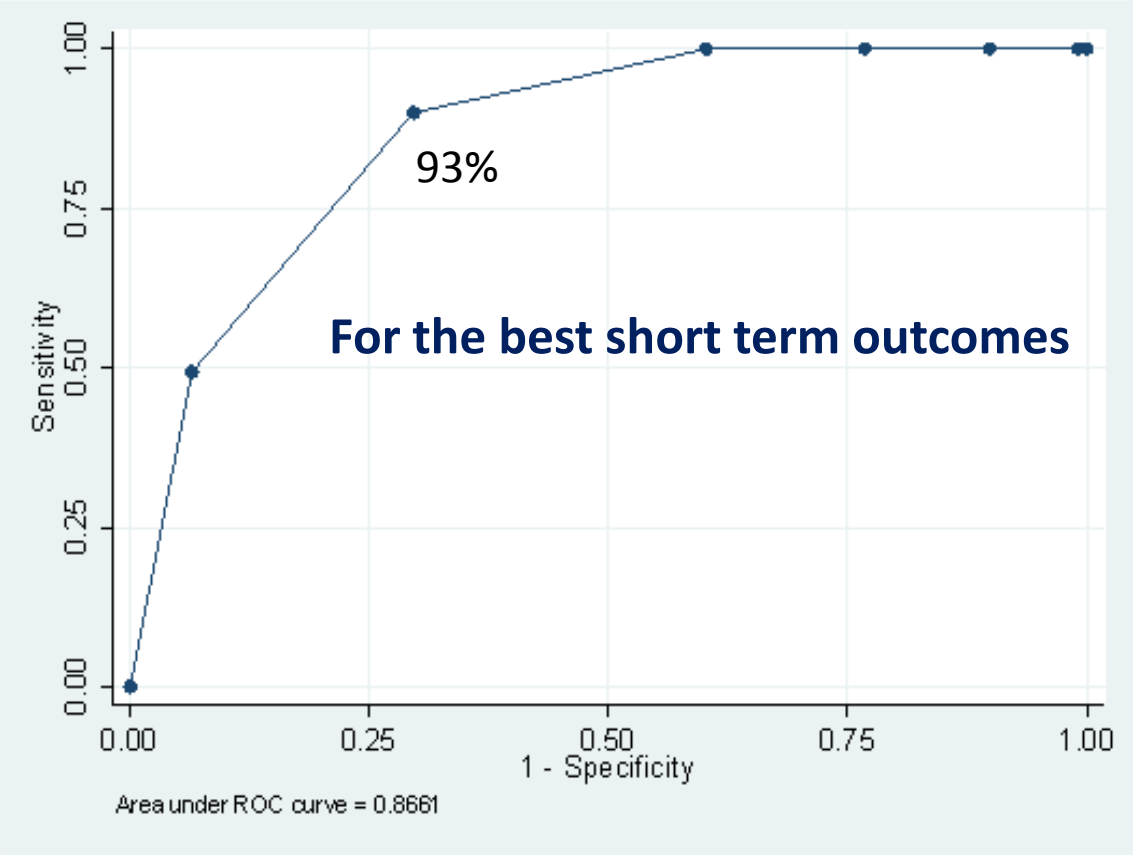

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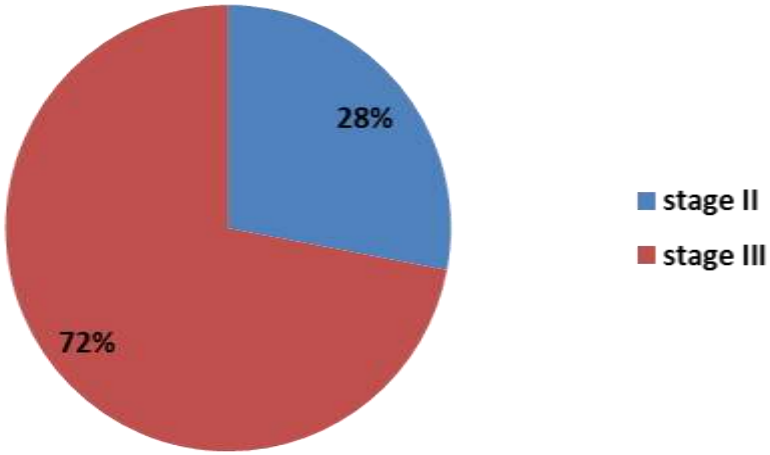
ERAS beyond discharge- timing to chemotherapy?

- Median LOS = 5 days
- Re-admission=12%
- 100 patients received adjuvant chemotherapy for advanced stage II or III disease
- Median timing of administration of chemotherapy was 54 days (range 26-111)



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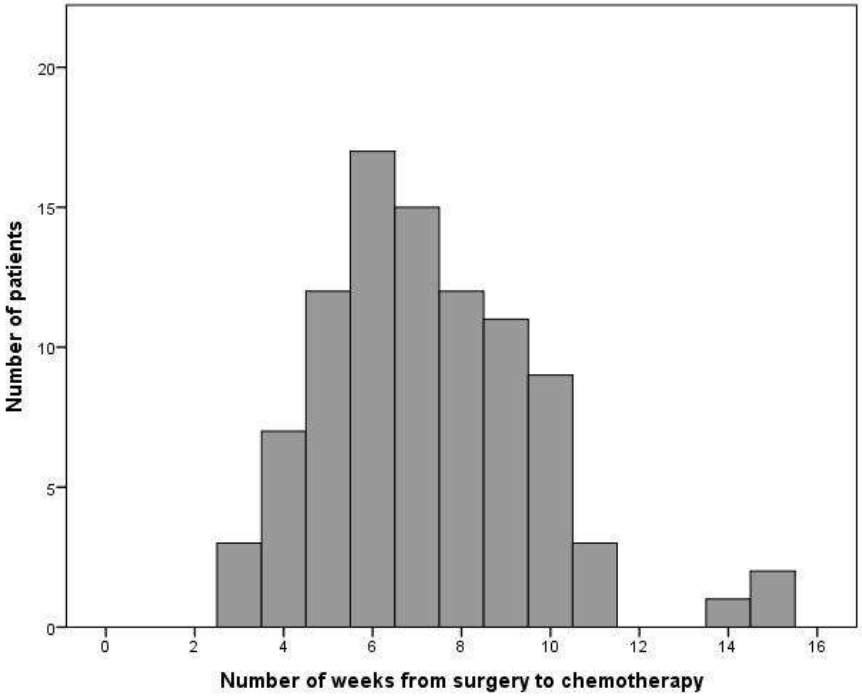

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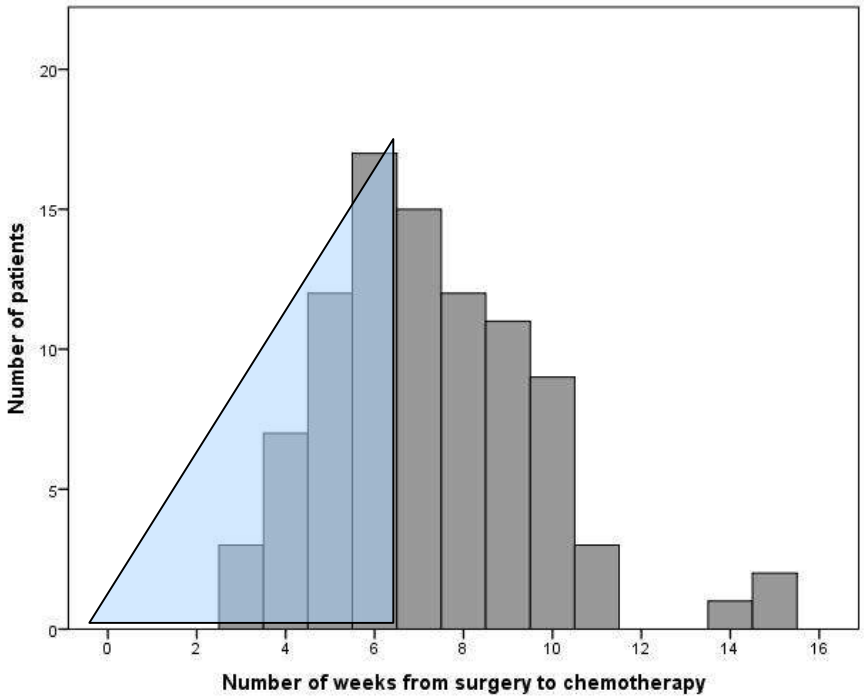

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ERAS beyond discharge- timing to chemotherapy?

Variable	Group A (<8weeks)	Group B (8+weeks)	p value
Demography	No significance		>0.05
Intra-Operative Outcomes	No significance		>0.05
Post-Operative Outcomes	No significance		>0.05
Length of stay *[median (IQR)*	5 (2-22)	6 (3-48)	0.42
Complications	15 (28%)	11 (29%)	0.79
Wound infection	4 (8%)	6 (16%)	0.58
Re-admission	4 (8%)	6 (16%)	0.15
30-day mortality	0 (0%)	0 (0%)	1.00
Interval to first chemotherapy dose *[median (IQR)]*	43.5 (26-55)	68 (57-111)	<0.001

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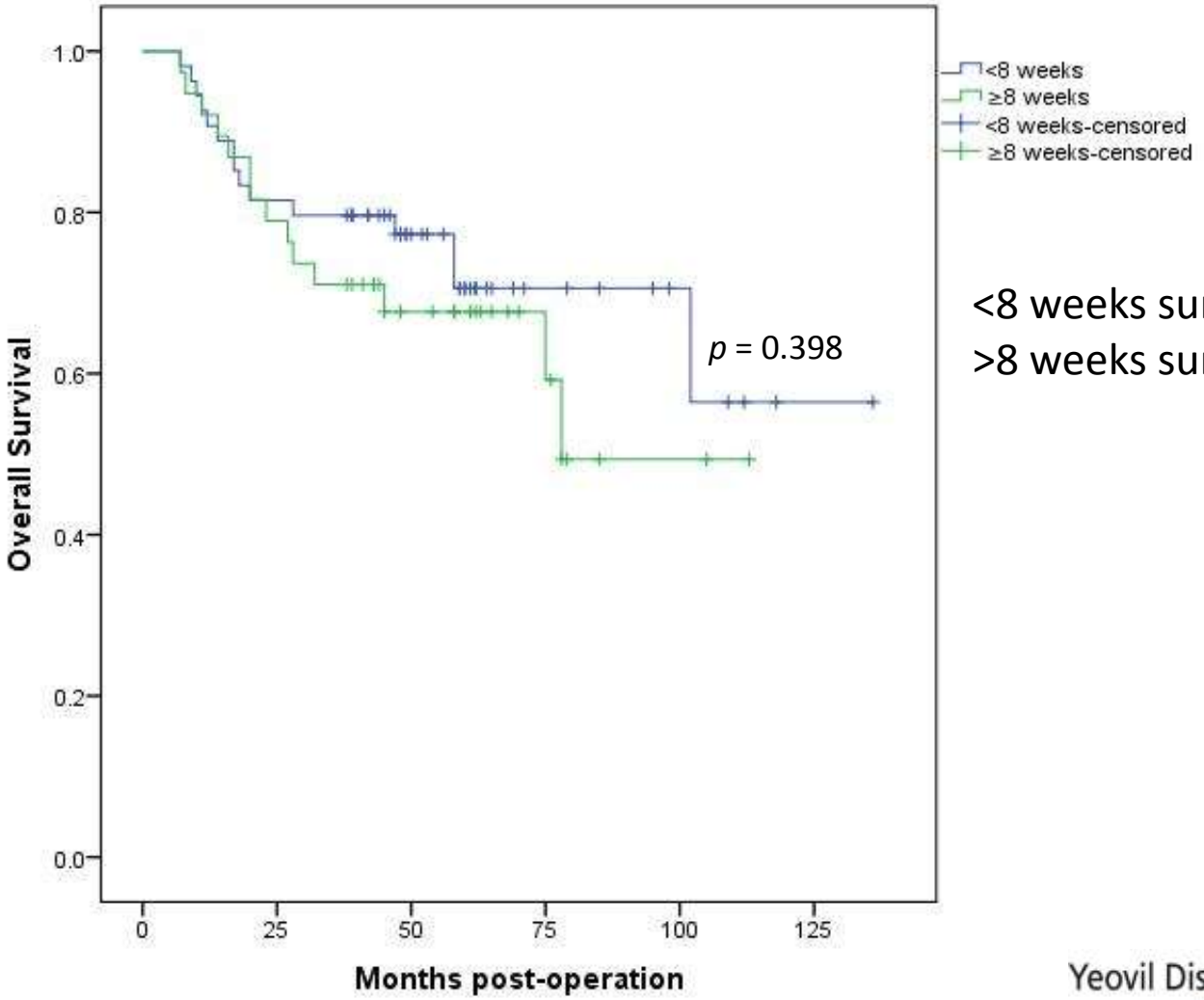
Median interval between surgery and review in the oncology clinic was 36 days (12-70)

ERAS beyond discharge- timing to chemotherapy?

Median follow up 49 months



<8 weeks survival 70% vs
>8 weeks survival 63%

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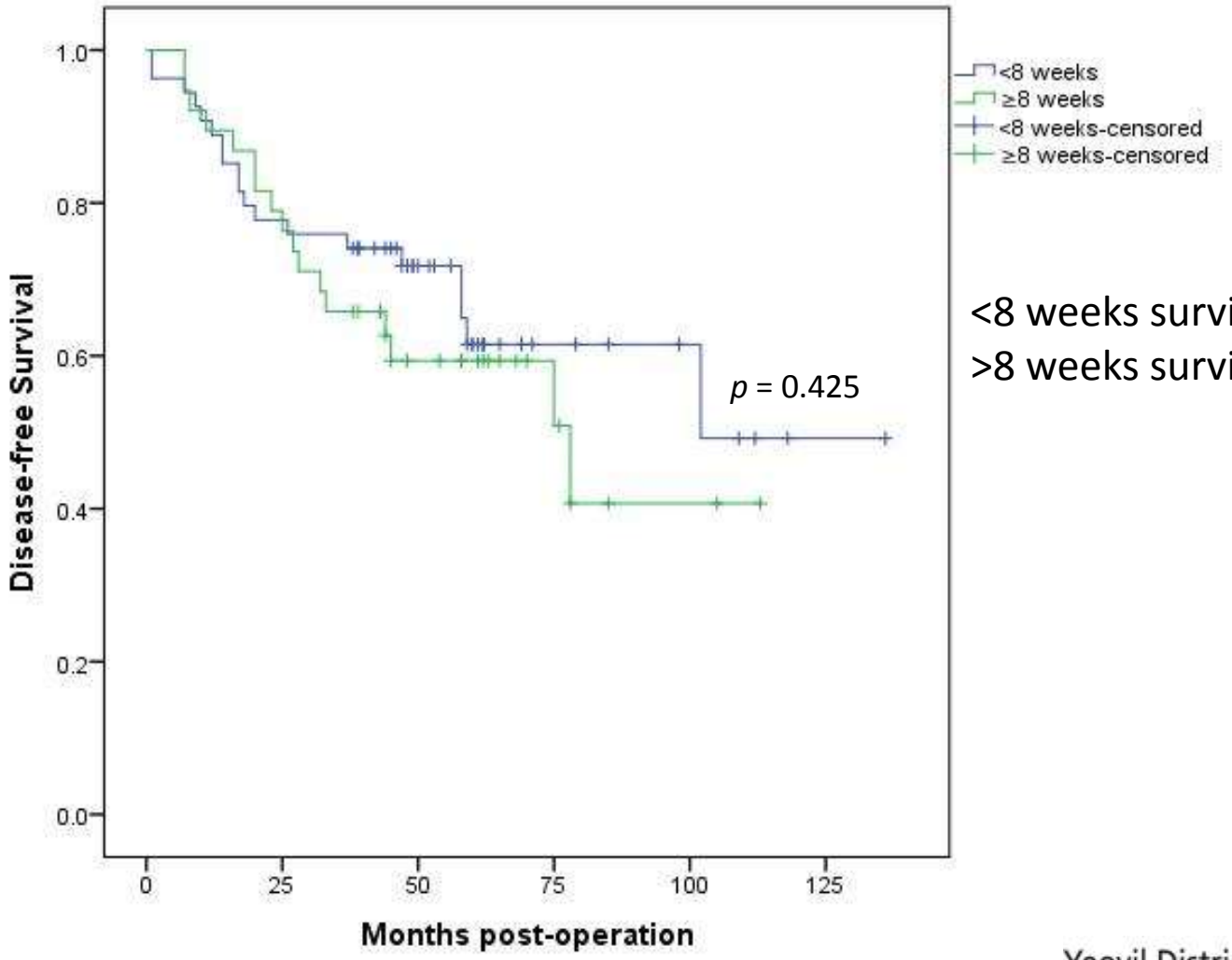
ERAS beyond discharge- timing to chemotherapy?

Median follow up 49 months



<8 weeks survival 65% vs
>8 weeks survival 55%

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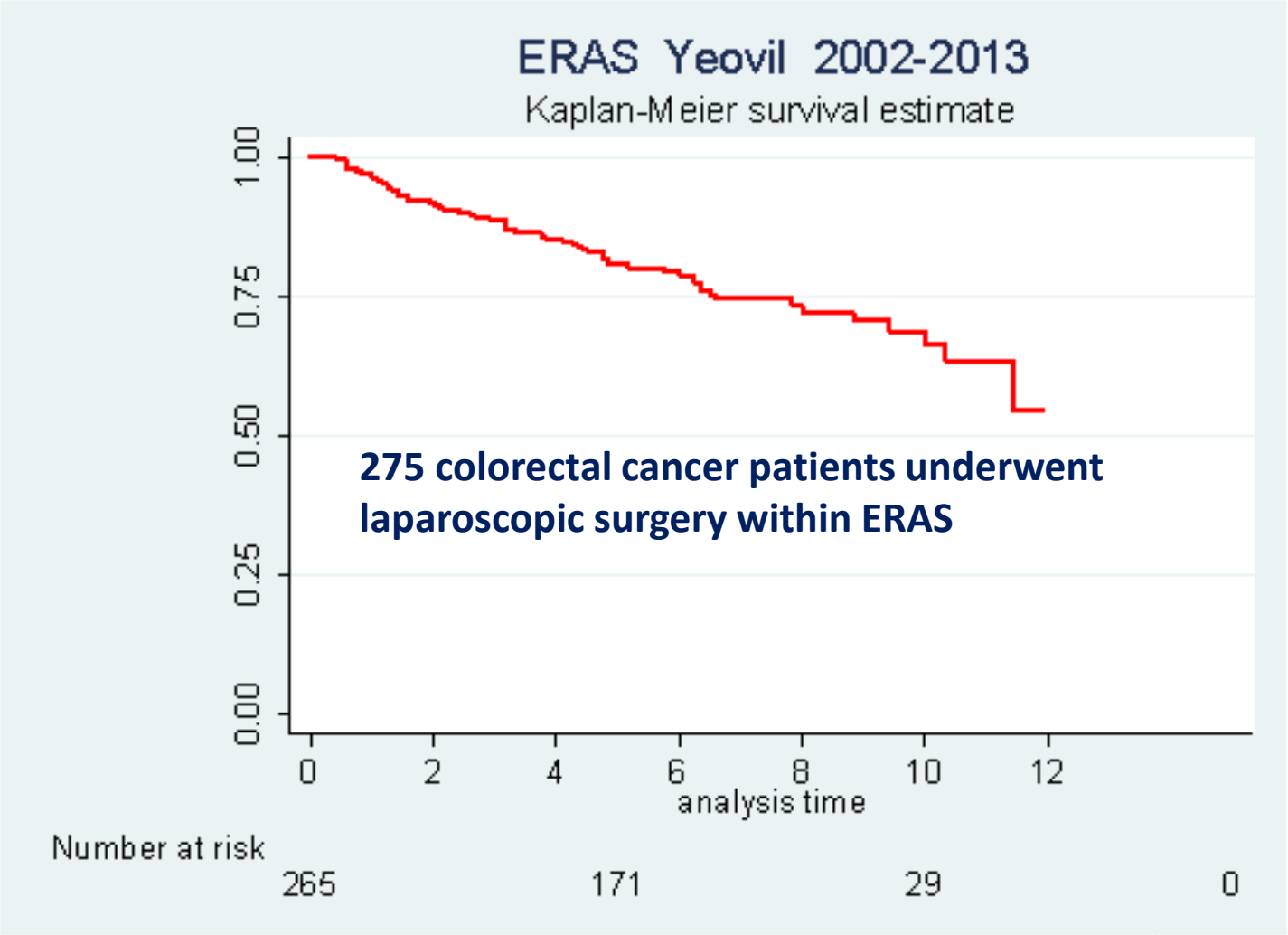
Long term impact of ERAS after discharge

- Timing of initiation of adjuvant chemotherapy
- Disease recurrence and overall survival

ERAS beyond discharge- 11 year overall survival



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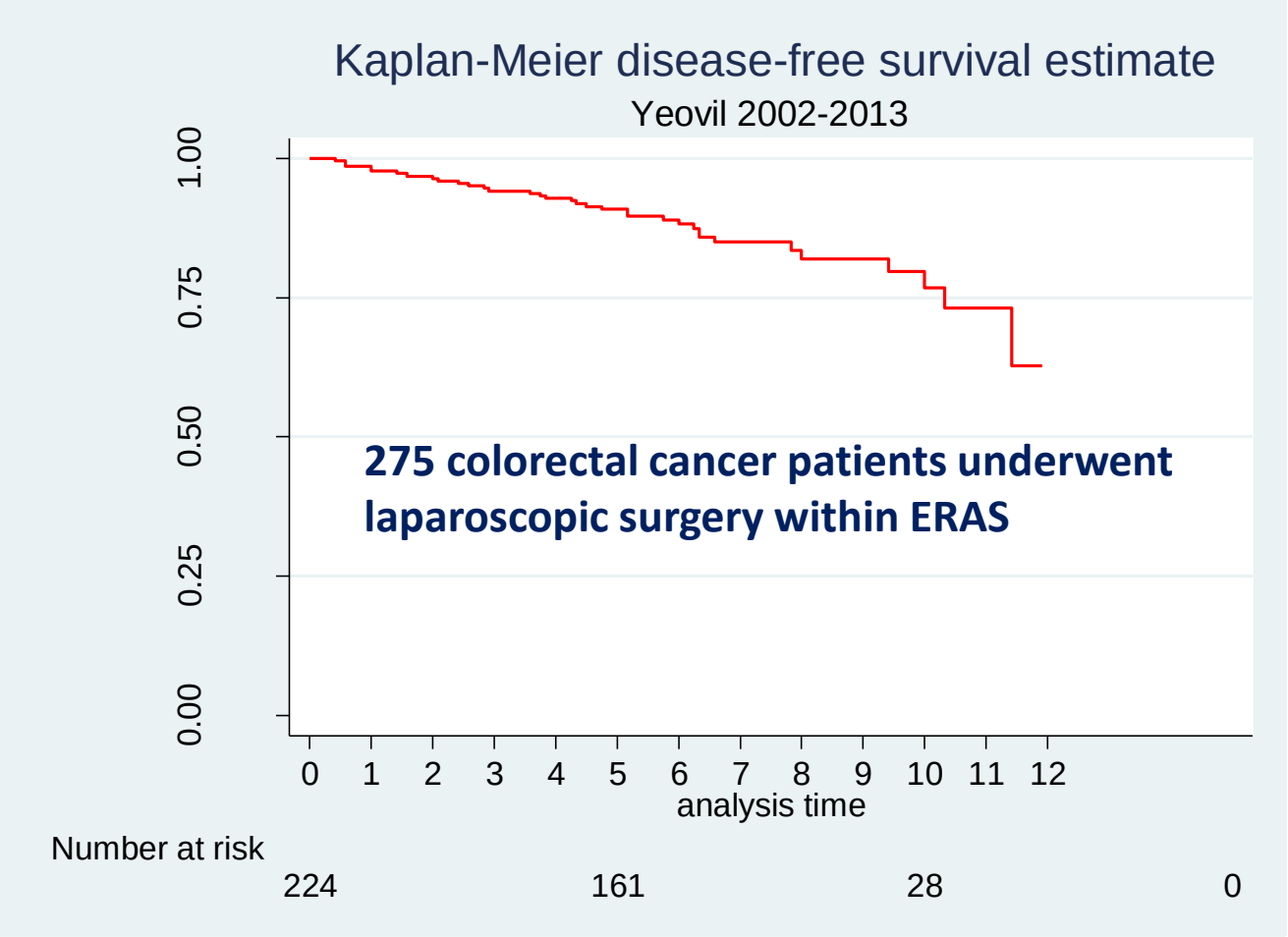
ERAS beyond discharge- 11 year overall survival



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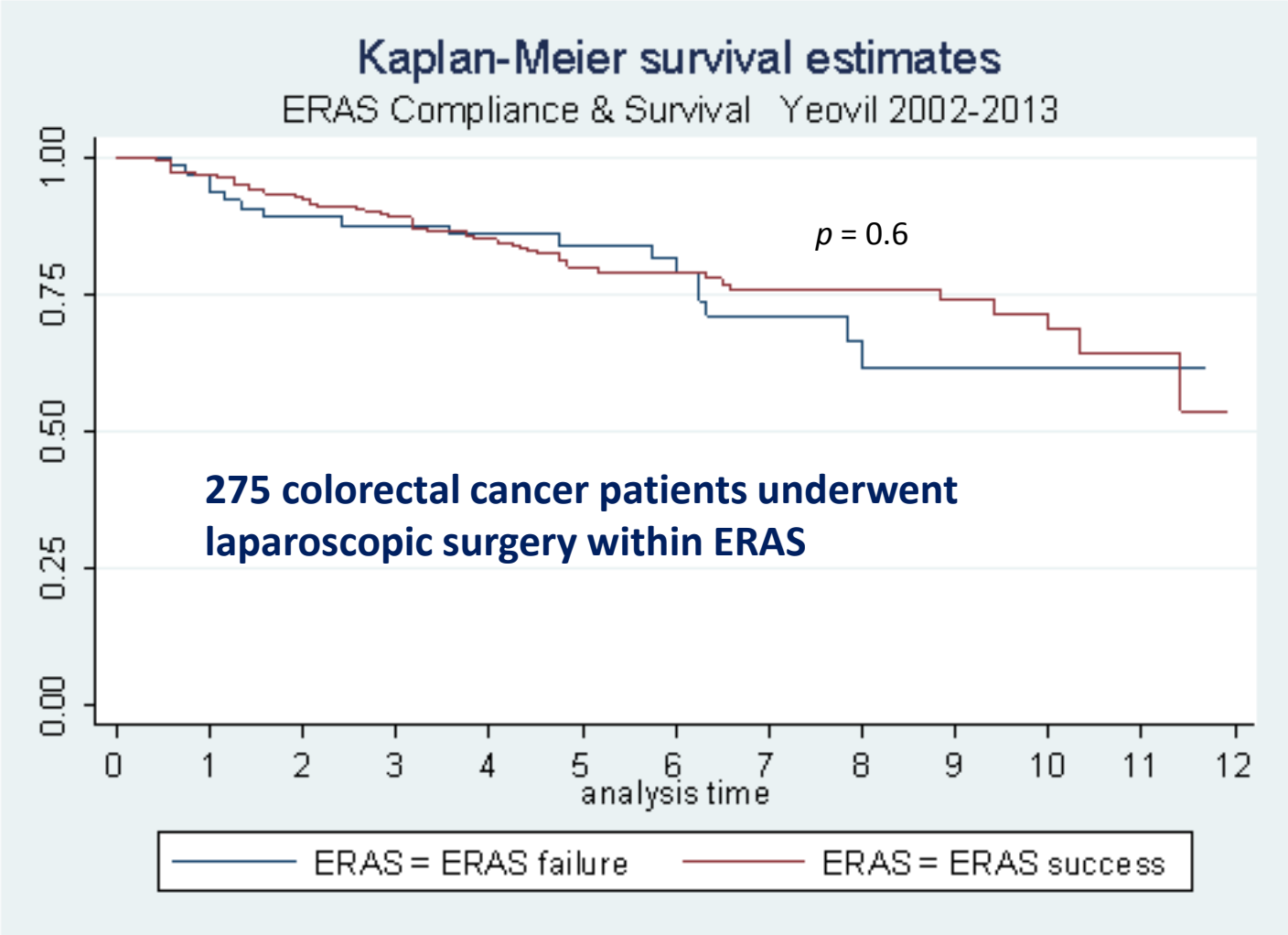
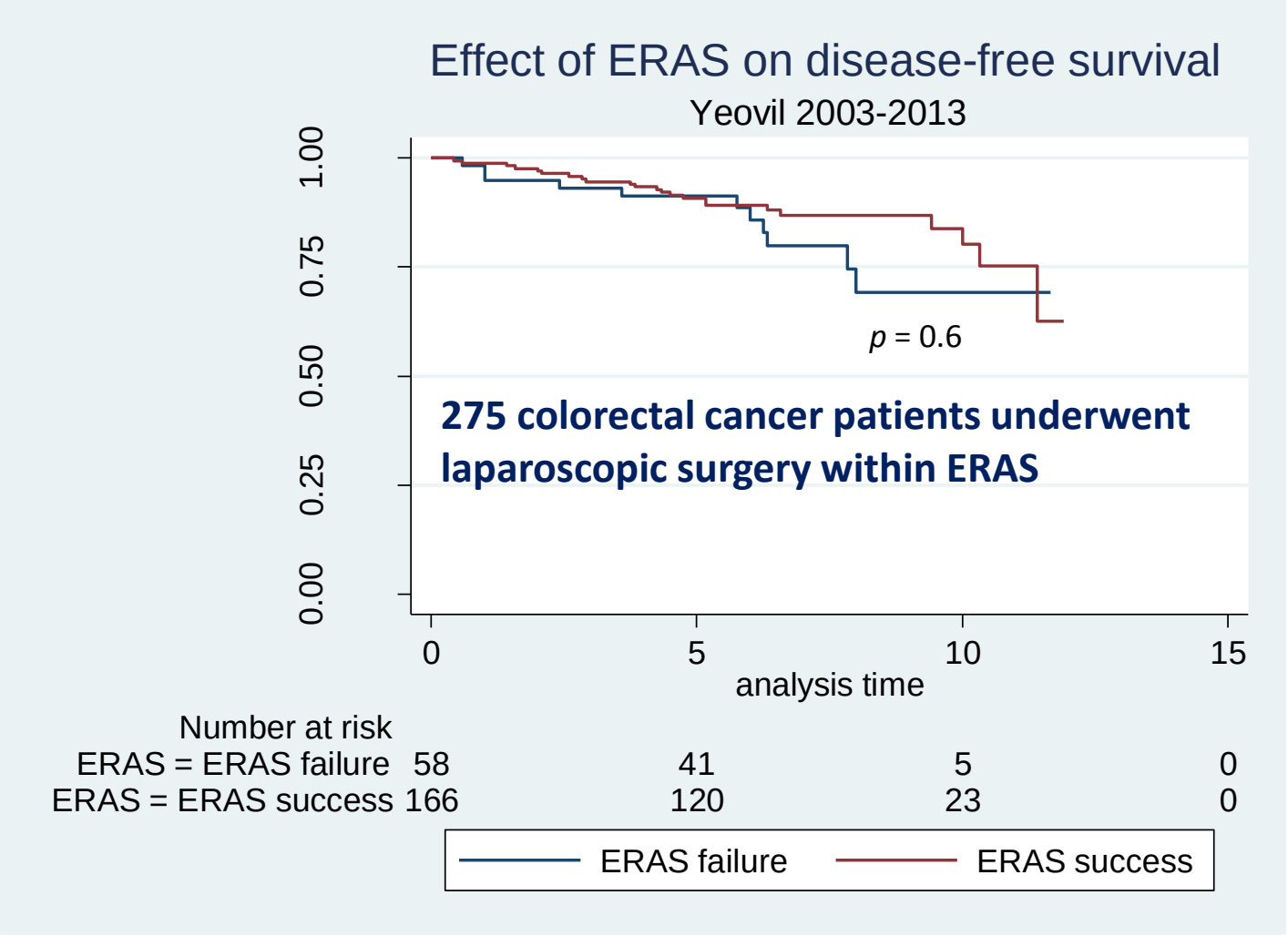


Years

ERAS beyond discharge- 11 year overall survival



Years

COX Regression Model
11 year overall survival

	Hazard ratio	Sig.	Odd ratio	95.0% CI	
				Lower	Upper
ERAS compliance	-1.101	.042	.333	.115	.962
Pre OP albumin	-.055	.159	.946	.876	1.022
Operation time	.006	.023	1.006	1.001	1.012
Age	.036	.054	1.036	.999	1.075

Final COX Regression Model
11 year overall survival

	Hazard ratio	P value
OS		
Age	1.04 (1.051-2.822)	0.013
Metastasis	11.6 (6.4-20.98)	0.0003
ASA grade	1.7 (1.05-2.8)	0.03
DFS		
Age	1.04 (1.013- 1.076)	0.006
Preoperative albumin level	0.93 (0.88-0.99)	0.04
Operative timing	4.1 (1.8-9.5)	0.001

Conclusions

- Lack of attention to ERAS after discharge
- Lack of evidence to provide a complete assessment of recovery
- ERAS benefits have not been translated into reduction of time to receiving adjuvant chemotherapy

Conclusions

- There is no evidence to suggest that ERAS compliance can predict long term survival
- Long term survival is related to patient and operative factors
- Further research is required to investigate the benefits of ERAS beyond discharge and test its oncological benefits in larger studies

Acknowledgement

- Colorectal and ERAS team at YDH
- Professor Emad Salib: www.aidmedical.co.uk
- Patient and public involvement at Yeovil
- Oncology and Macmillan unit at YDH
- Health Informatics unit at YDH

Thank you