

Asia Medical Forum 2007
April 21-22, 2007
The Lancet/The Lancet Oncology

“Cancer management in the 21st century”

Management of Stomach Cancer

Chew-Wun Wu, MD, FACS
Professor, National Yang-Ming University
Chief, General surgery service, Taipei Veterans General Hospital

2:35 pm April 21, 2007, Singapore (20 min)

Evolution of Gastric Cancer Surgery

Gastric Resection

1880 Subtotal (Billroth)
1897 Total (Schlatter)



Extended Surgery

1940s Anesthesia



American studies

More radical
primary cancer organ site removal

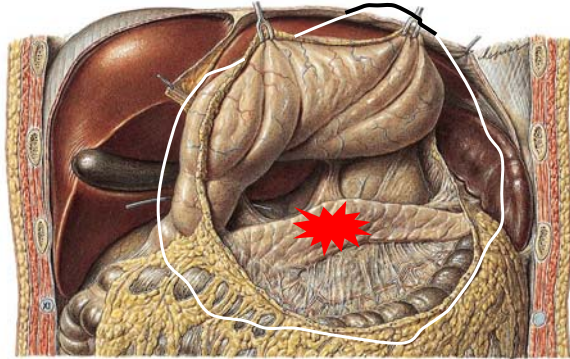
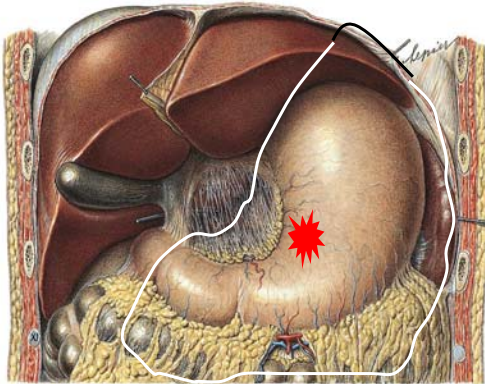
Japanese studies

More radical
Lymph node dissection



Extended Surgery

American Study



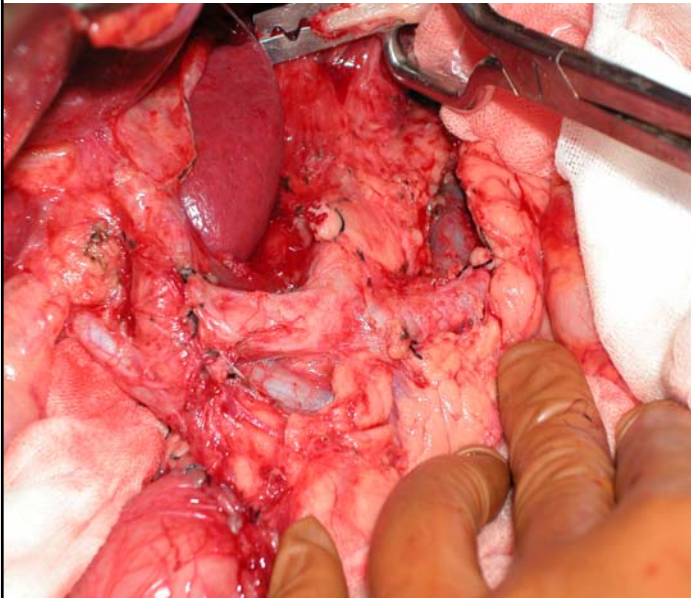
No efforts, except
macroscopic extra gastric extension
to adjoining tissues

Two pioneering articles		Op mortality
McNeer	Cancer 1948	14%
Brunschwig	Cancer 1948	27%

Lawrence Cancer 1997

Japanese Study

Lymph node dissection for gastric cancer



A D2 resection
Increase survival
20% (5 yr: 60%)

Morbidity, Mortality & Survival in Nodal dissection Surgical Trials

Trials	n	Morbidity			Mortality			Survival		
		D1	D2	D3	D1	D2	D3	D1	D2	D3
Cape Town trial Dent et al. 1988	43	14%	33%		0	0		78%	76%	3yr
Hong Kong trial Robertson et al. 1994	55	-	47%		0	3.4%		4.1y	2.5y	median
Dutch trial 1999 Bonenkamp et al.	400	25%	43%		4%	10%		45%	47%	5yr
UK trial 1999 Cuschieri et al.	400	28%	46%		7%	13%		35%	33%	5yr
Taipei trial Wu et al. 2006	221	7%	17%		0	0		54%	60%	5y
Japanese trial Sano et al. 2006	523	-	21%	28%	-	0.8%	0.8%	-	n.s.	

Nodal dissection before and during Trial

Before trial

Supervising surgeons

Participating surgeons

During trial

Supervising surgeons

Participating surgeons

High volume excellence

Total D2 resection

Study period / Hospital

Taipei trial

Independent operator

CWW 304 D2
MCH 187 D2
SSL 25 D2

3 surgeons

CWW 58 D2
MCH 13 D2
SSL 38 D2

111 D2 resections

5 y 10 m / 1

Dutch trial

Observers or assistants
34 D2 (11 surgeons)

Well trained experienced

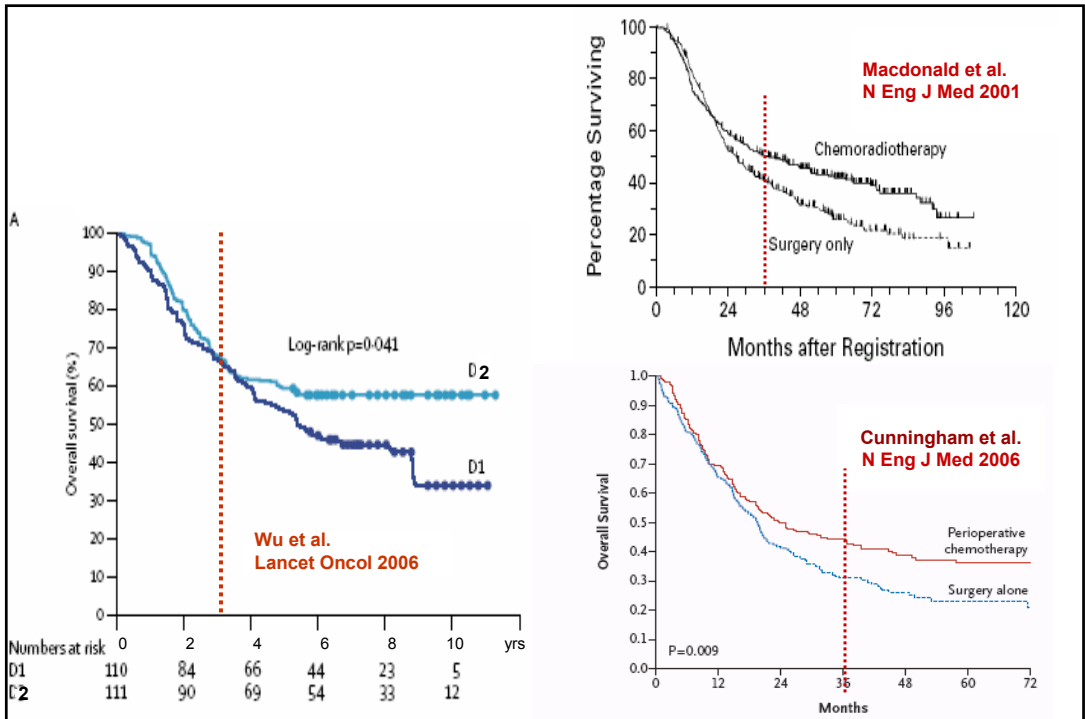
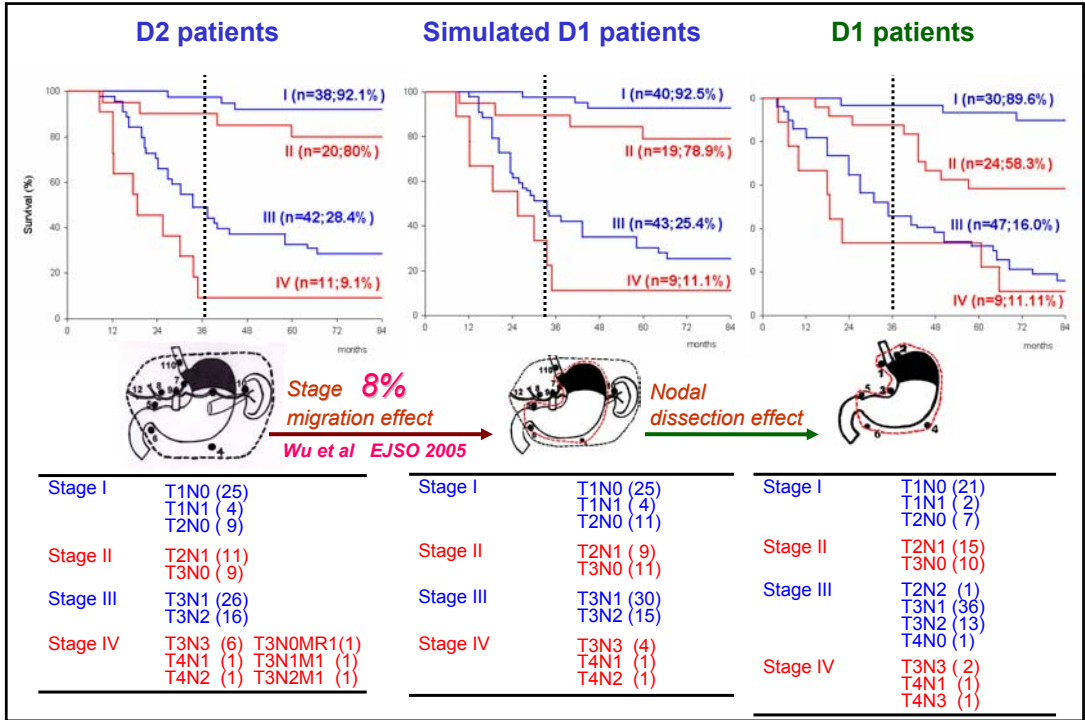
Average supervised
27 D2 resections

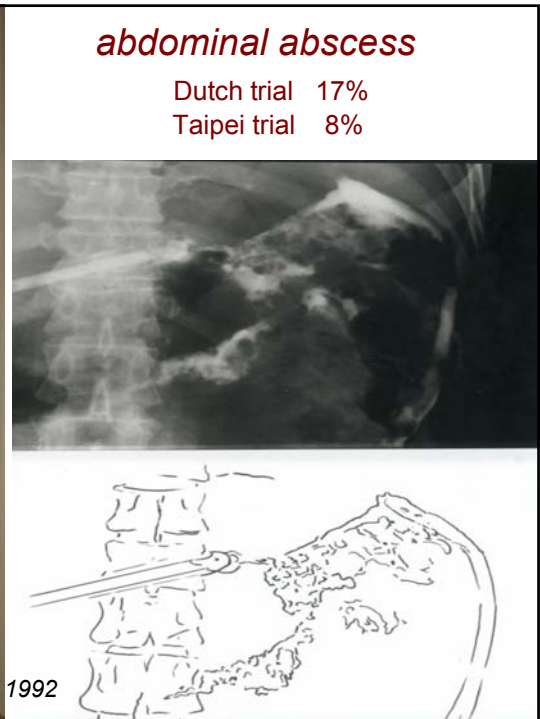
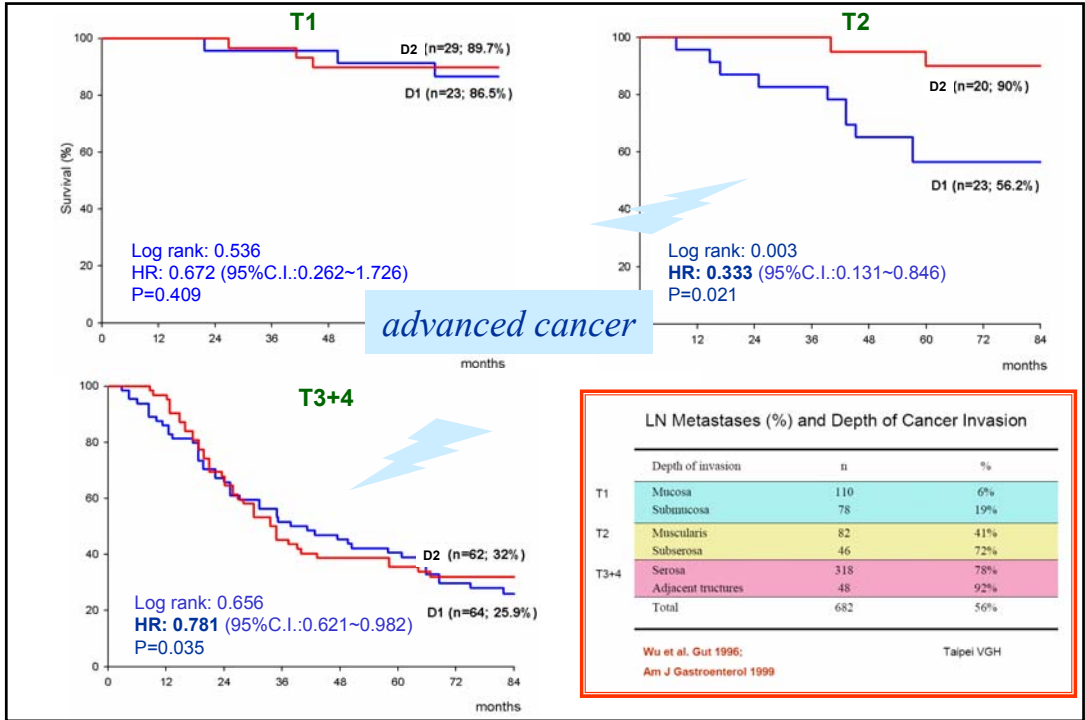
85 surgeons

Average 1 D2 / yr

483 D2 resections

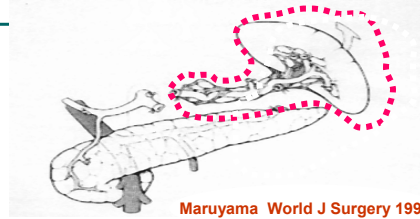
4 y / 80





Risk factors for complications

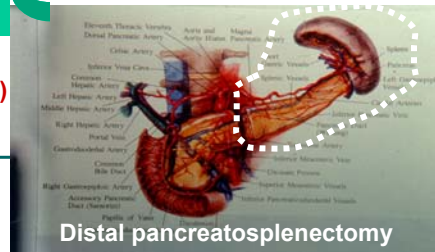
	n	Patients affected	Relative risk (95% CI)
Nodal dissection			
D1	110	5 (4.5%)	1.9 (1.2~3.3)
D2	111	19 (17.1%)	
Pancreatectomy/Splenectomy			
No	203	18 (8.9%)	3.9 (1.3~11.9)
Yes	18	6 (33.3%)	



Maruyama World J Surgery 1995

Pancreas preserving splenectomy

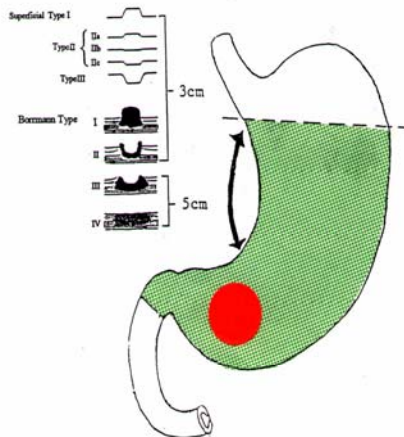
LNs along splenic artery and splenic hilum



Distal pancreatectomy

Wu et al. World J Surg 2006

Total or Partial Gastrectomy for distal gastric cancer?



- **Subtotal gastrectomy**
- 5 - 6cm proximal resection margin verified by frozen section.

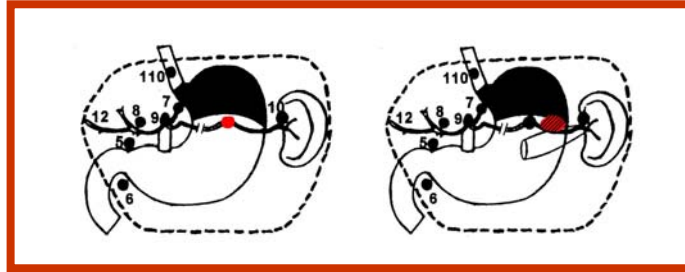
French trial Ann Surg 1989

Italian trial Ann Surg 1999

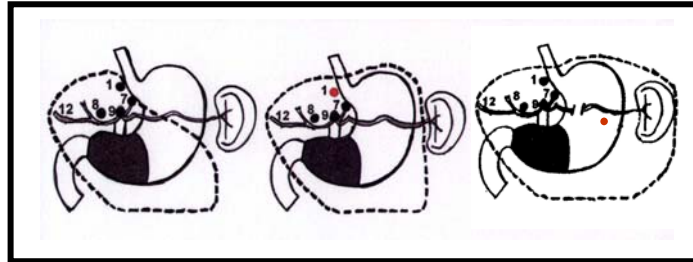
HK trial Ann Surg 1994

Extended Lymphadenectomy

U/3
Ca



L/3
Ca



Endoscopic Mucosal Resection

Mucosal cancer

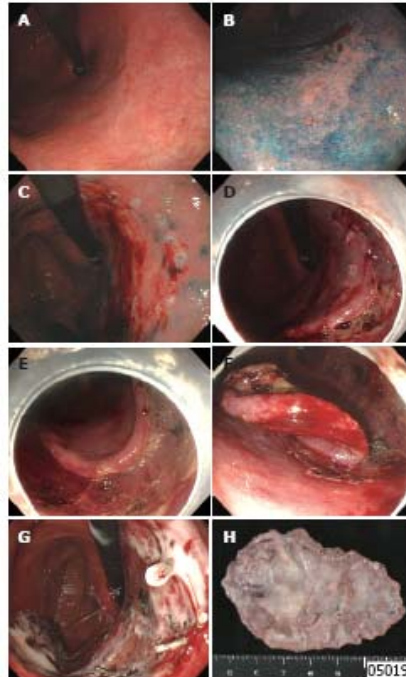
elevated type (I, IIa) < 2cm

flat type (IIb) < 2cm

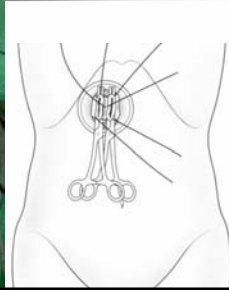
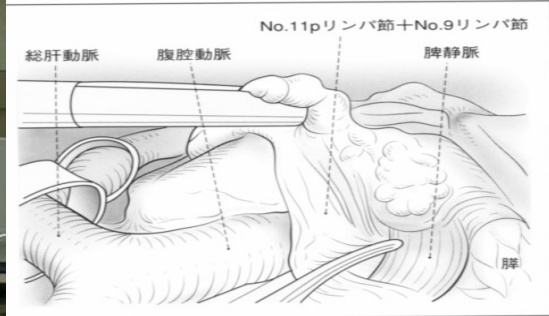
**depressed type (IIc) with
no ulceration**

less than 1cm

**well differentiated
adenocarcinoma**



Laparoscopic nodal dissection T1-2 n0-2

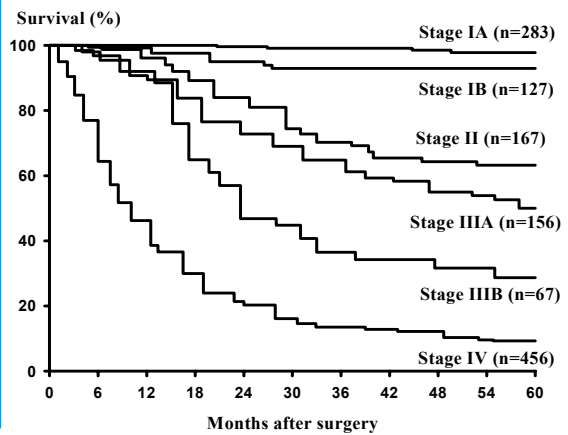


Taipei Veterans General Hospital
(1988-2001)



Wu & Lui Asian J Surgery 2001

Survival of 1256 gastric cancer patients



Management of Gastric Cancer - Summary

Scope of Gastric Resection

Subtotal Gastrectomy-L/3 Ca

Total Gastrectomy

Mucosal Ca-Limited Surgery

Endoscopic Mucosal Resection

Lymph node dissection

D2 ↑ survival

↑ Morbidity ? Mortality

by well trained, experienced surgeons

Effect of surgery plus chemoradiotherapy or chemotherapy

Await for future study