

## How to design an endoscopy-unit



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9-8-12 Durban



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Afdeling MD

*Gut*, 1989, **30**, 546-550

### Special report

## Staffing of a combined general medical service and gastroenterology unit in a district general hospital

*A Report prepared for the Royal College of Physicians (London) Gastroenterology Committee and the Clinical Services Committee of the British Society of Gastroenterology*

1989

THE BRITISH SOCIETY OF  
GASTROENTEROLOGY



PROVISION OF GASTROINTESTINAL  
ENDOSCOPY AND RELATED SERVICES  
FOR A DISTRICT GENERAL HOSPITAL

1990

1990

## Starting-points

- Location
- Area - requirements
- 2 (+1) model BSG
- 4 (+2) model teachings-units
- One room per 1500 - 2000 procedures

*For the rich and the poor*

UEGW Geneva 2002

# Endoscopy

EUROPE USA(+CAN)  
35 societies 2 societies

National Organ of the European Society of Gastrointestinal  
Endoscopy (E.S.G.E.) and American Societies

Guidelines for the Endoscopy-unit :

UK : [WWW.BSG.ORG.UK](http://WWW.BSG.ORG.UK)

NL : Endoscopy 1997 ; 29 : I-V

USA : [WWW.ASGE.ORG/index.JSP](http://WWW.ASGE.ORG/index.JSP)

*Endoscopy, GI-Endoscopy*



Endoskopie  
Struktur  
und Ökonomie

Planung, Einrichtung  
und Organisation  
einer  
Endoskopieabteilung

Herausgegeben von  
J. Philip  
in Zusammenarbeit  
mit  
S. Hattori

WILEY  
VERLAG



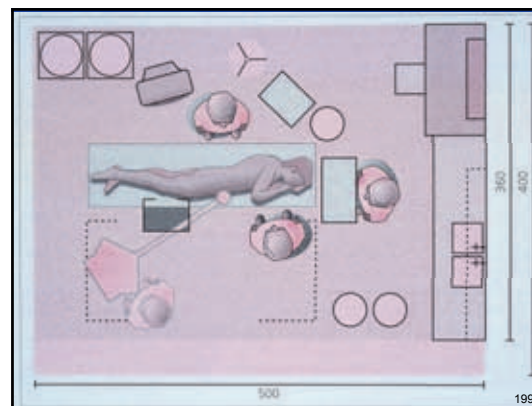
## Procedures

- Gastroduodenoscopy
- Intervention-endoscopy
  - dilatation/stenting
  - sclerotherapy
  - (Argon) coagulation
- Percutaneous endoscopic gastrostomy (PEG)
- Ambulatory 24-hour oesophageal monitoring
- Small-bowel biopsies
- Endoscopic retrograde cholangiopancreatography (ERCP)
- Colonoscopy
  - polypectomy
  - electrosurgery
  - laser

1. Daily Projected Volume (DV) =  $\frac{\text{ANNUAL PROJECTED VOLUME}}{\text{WORKING DAYS PER YEAR}}$
2. Capacity per Room (RC) =  $\frac{\text{NUMBER OF WORKING HOURS}}{\text{AVERAGE PROCEDURE TIME} + \text{TURNAROUND TIME}}$
3. Number of Endoscopy Rooms (ER) =  $\frac{\text{DAILY PROJECTED VOLUME (DV)}}{\text{CAPACITY PER ROOM (RC)} \times 0.7 \text{ (ACTIVITY FACTOR)}}$

### Problems in defining

- Therapeutic endoscopy : lower production
- Endoscopists with basic skills versus intervention endoscopists
- Limitation of available recovery space
- Intermittent cleaning of rooms
- Managers want less; the money item



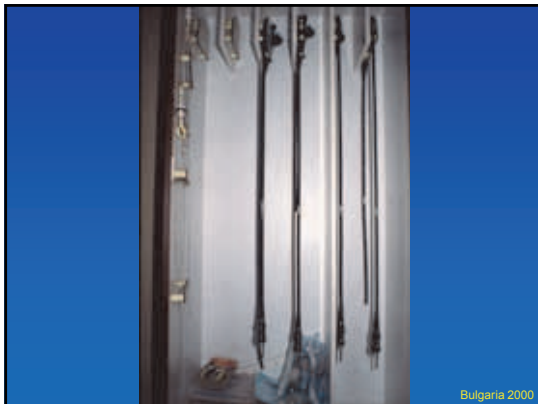
### Official Standards

- 2500 endoscopies = one room
- 1500 interventions = one room
- one room =  $\geq 24 \text{ m}^2$
- one intervent. room =  $\geq 30 \text{ m}^2$
- disinfection =  $4,5 \text{ m}^2$  per room
- waiting =  $6 \text{ m}^2$  per room
- recovery =  $9 \text{ m}^2$  per room

Hospital Facilities Board Ministry of Health NL 1996

## Endoscopy Unit

- examination rooms
- cleaning/disinfection area
- preparation/recovery rooms





AMC 1984



Rijnstate 1994



AMC 1995



Rijnstate 1999

Why Ceiling-Mounted Support Systems??

- Equipments do not take up floor space
- They don't get in the way
- You can't fall over your equipment or cables
- Cleaning is easier


Copharm®  
Kreuzer®



King Edward, Durban 2001



DISINFECTION  
ONE DOOR  
ENDOSCOPY ROOM




Disposable is Disposable??

Flying blind / Fairy Tales?  
 FDA : ACT of Freedom of Information (FOIA)  
 USA YES / ESGE YES / EAST - EUROPE : NO

- Buy as much reusable as possible force them to make it
- Ask the companies about the testing: Cook / Boston Scientific etc.

\*Bush promised disposables to be disposable during election.

Endoscopy Nursing Staff

- Each endoscopist : 2 nurses
- Basic unit (2+1 roommodel) : 5 nurses.
- Absence due to holidays, sick-leave, training : 6 nurses.
- On-call roster
- Nurse staff/meeting room.

## Staffing the endoscopy unit

- to deliver the good clinical outcome
- proven management techniques
- creative flexible thinking
- outpatient setting requires recovery
- initial attention to details for efficient operation

McMillin: *GI Endosc Clin N Am.* 2002;12:285  
Dmcmillan@amsurg.com

## Endoscopy Unit preparation/recovery room

- two/three beds per endoscopy room
- seven square meters per bed
- oxygen and suction points
- post-sedation recovery
  - pulse oximeters
  - monitor
  - resuscitation cast



## Topics for the Rich

- Sedation on demand
- Disposable or reusable
- Waiting lists
- Two nurses per scopy
- Nurse endoscopists
- On call service (24 hrs)

## Bottlenecks

- Scopes / accessories
- Disinfection (any?)
- X-ray
- Recovery

*For the east and the west*

## Audit: safety, staffing, sedation

- staffing problems
- lacking basic facilities
- poor, non-existent recovery
- junior endoscopists unsupervised
- etc., etc.

in England!!!!

*Gut 1995;36:462*

## Conclusion

Designing a unit is

- discussing
- visiting St. Elsewhere
- designing
- discussing