

What Is a Typical Surgical Patient in Gibraltar - Preoperative Assessment

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Data Collection

- 307 patients attending preoperative assessment examined in August and September 2007
- Total patients per year approx 2900
- Approximately 10% of the population
- UK – 3 million on 60 million (5%)
- Local anaesthetics approx 400/year

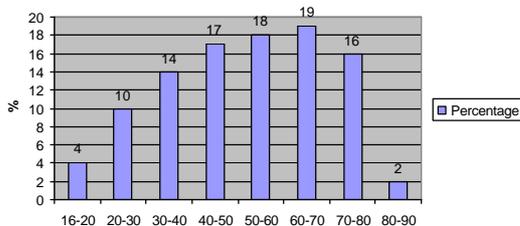
What did we look at?

- Age
- BMI
- Smoker
- Allergies
- Regular Medications
- Influence on pre operative workup and surgical management/operation

What sex & How old?

- Males 42%
- Females 58%
- Average age 50
- Range 17 to 90

Age group by Percentage



Body Mass Index (BMI)

- The prevalence of overweight and obesity is commonly assessed by using body mass index (BMI), (kg/m²).
- A BMI over 25 kg/m² is defined as overweight
- A BMI of over 30 kg/m² as obese.
- Gibraltar Preoperative assessment average 28.1
- Range 18 –46

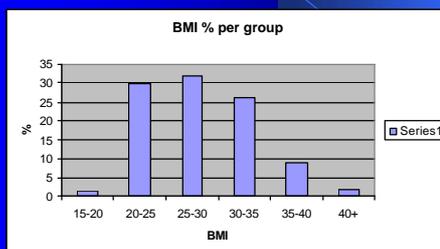
Surgical population different to normal population?

- Adult mean BMI levels of 22-23 kg/m² are found in Africa and Asia, while levels of 25-27 kg/m² are prevalent across North America, Europe, and in some Latin American, North African and Pacific Island countries.
- Discussion of health promotion and weight loss programmes *BMJ Aug 08 Underestimating Overweight

Extent of Problem

- Currently more than 1 billion adults are overweight - and at least 300 million of them are clinically obese. Current obesity levels range from below 5% in China, Japan and certain African nations, to over 75% in urban Samoa. But even in relatively low prevalence countries like China, rates are almost 20% in some cities.

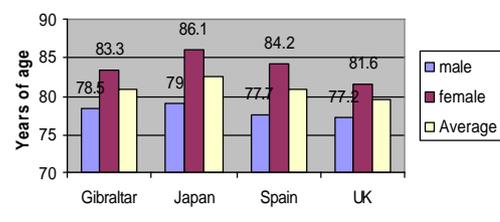
BMI Gibraltar Surgical Population



Gibraltar's surgical Population?

- 69% overweight
- 37% clinically obese
- 10.8% morbidly obese

Life Expectancy



*United Nations World Population Prospects

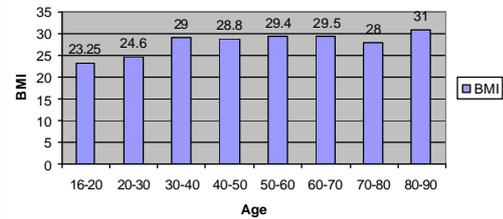
How does excess body fat impact health?

- Non-fatal (but debilitating) health problems associated with obesity
- Respiratory difficulties
- Chronic musculoskeletal problems
- Skin problems
- Infertility.

Life-threatening problems (fatalities)

- Cardiovascular disease
- Conditions associated with insulin resistance such as type 2 diabetes (85% of people with diabetes are type 2, and of these, 90% are obese or overweight)
- Certain types of cancers, especially the hormonally related and large-bowel cancers (breast, colon, prostate, endometrium, kidney and gallbladder)
- Gallbladder disease.

Average BMI per age group



Patients awaiting surgery – 37% smokers

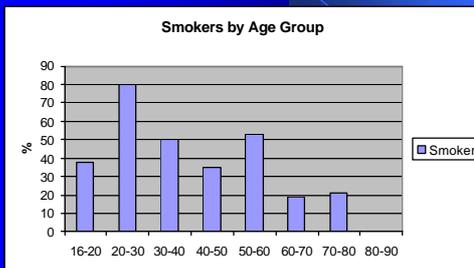
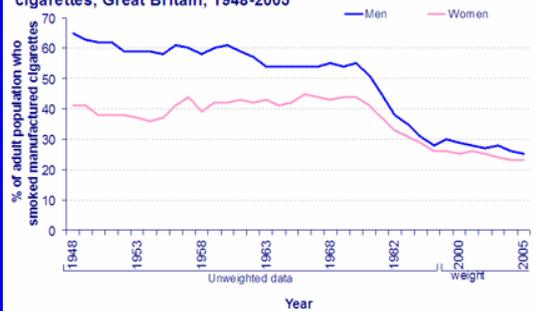
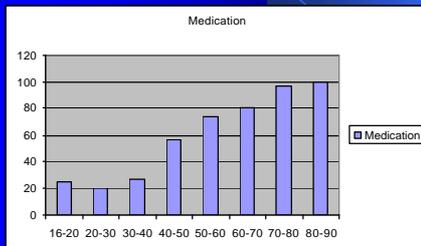


Figure 6.1: Percentage of persons aged 16 and over, who smoke cigarettes, Great Britain, 1948-2005



Patients awaiting surgery on medication – 61%



Concurrent Drug Therapy in Patients Undergoing Surgery

- Previous audit showed 69% taking regular medication
- Average number of medications per patient 3.1
- Cardiovascular medications 45%
- Respiratory medication 27%
- Others 27% inc analgesia
- Literature shows an increasing number of patients are attending for surgery taking regular medication

Impact on Surgery

- Present more difficult problems during the perioperative period – mainly medical
- Improvements in patient safety if medications can continue during perioperative period
- Many patients attend surgery without having taken their medication on the day of surgery – reasons for this are well documented (patient omission, fasting, withheld on medical and nursing orders)
- Continued investment in patient and medical education via preoperative assessment clinics with written information and clear instructions regarding concurrent medication

	Duthie 1983	Duthie 1984	Klüber 1991	Roberts 2005	Roberts 2007
Patients on regular medication	24%	32%	44%	69%	61%
Cardiovascular drugs	10%	16%	41%	45%	

Recognising High Risk Surgical Patients

- **Surgical** mortality is approximately 0.8–1% for all patients undergoing surgery.
- There are approximately 3 million operations per year in England. Although overall surgical mortality is low, this still accounts for some 30000 postoperative deaths per year in the UK.
- The majority of these deaths occur on hospital wards, 5 days or more after surgery.
- Department of Health (England). *Hospital Episode Statistics: 2002–3*.

Where do they die? What can we do?

- Surgical mortality 0.8-1%*
- In the NCEPOD report published in 2001, only 5% of deaths were in the theatre/recovery areas.
- Postoperatively, 40% of those who died went to an ICU or HDU.
- 55% went to the ward (over 80% showed recognised deterioration in observations beforehand)
- Increased use of Critical Care Services
- MEWS and mMEWS systems

*Department of Health (England). *Hospital Episode Statistics: 2002–3*.

Preventing surgical deaths

- Leapfrog Group (representing approximately 34 million health care consumers) states that ‘... the hospital where surgery is performed can mean the difference between life and death’
- Outcome improved following preoperative assessment
- ‘Intensivists’ improve outcome for critically ill patients.(up to 40% reduction)*
- Manthous GA, Amateau AY, Al KT *et al*. Effects of a medical intensivist on patient care in a community teaching hospital. *Mayo Clin Proc*. 1997;72: 391–9
- Costas RC, Costa JL, Assad JA. Impact of a coordinated team of intensivists on mortality in critical care: a prospective study over 12 months. *Crit Care Med* 1996

Reducing Surgical Mortality

- Preventing surgical mortality is about providing a package of care. This includes appropriate optimization preoperatively and excellent intraoperative surgical and anaesthetic management, but also postoperative support.
- Elements of care include fluids and judicious use of blood products, management of cardiac output and blood pressure, control of temperature, provision of good analgesia, nutrition and respiratory support.
- Admission to a critical care area allows close monitoring and early intervention if problems arise.

- Many **surgical** deaths occur several days after an operation. Therefore there is opportunity to intervene. Physiological abnormalities are an important way of identifying high-risk patients.
- Critical care outreach services (MEWS & mMEWS) have a role in bridging the critical care gap that exists between the ward and the ICU or HDU.
- Critical care support and intervention prevent deaths. There is no substitute for an adequate number of critical care beds to which appropriate **surgical** patients can be admitted

Bennett-Guerrero E, Hyam JA, Shaefi S *et al.* Comparison of P-POSSUM risk-adjusted mortality rates after surgery between patients in the USA and the UK. *Br J Surg* 2003; **90**: 1593–8

- A recent study has compared mortality for patients undergoing major non-cardiac surgery in the **UK** and in the USA. P-POSSUM was used to predict outcome.
- In the **UK** predicted mortality was 10.2% and observed mortality was 9.9%. However, in the USA predicted mortality was 7.8% and observed mortality was just 2.1%.

Other reasons for outcome differences

- When explaining the difference in outcome, the authors thought that the provision of critical care services might be important. They stated that the **UK** has 8.6 critical care beds per 100 000 population whereas the USA has 30.5. The proportion of hospital budget spent on critical care is 1–3% in the **UK** and 20–34% in the USA.
- This **paper** is not without its limitations, but if this explanation is to be ignored an alternative convincing theory is required

Summary & Discussion

- With advances of medical technology and interventions more surgical patients are arriving in hospital taking regular medications – these need to be optimised and correctly administered during the pre, intra and postoperative recovery of patients to optimise care
- Intensifying Health promotion focusing on obesity and smoking
- Provision of a smoking cessation programme

Health Promotion

- Health promotion, defined as "*the process of enabling people to increase control over, and to improve, their health*" is a priority for every NHS organisation.
- The target areas are reducing smoking, tackling obesity (focusing on improving diets and increasing physical activity), sensible drinking, improving sexual health and mental health and tackling health inequalities

Questions and Discussion