THINKING AND TEACHING

Wisdom

Life is too short to drink flat tonic

John Winn

On education:
For most men it remains true and even obvious that for
the best education a complete general training in fields
other than those of their future calling brings about a
richer result.

Bill’s observation: That a person may be educated
beyond their intelligence.

On anaesthesia and medicine:
You are more likely to die on the first day of your life
than on any other than your last.

Prof John Davis

If the surgeon cuts a vessel and knows the name of that
vessel, the situation is serious; if the anaesthetist knows
the name of that vessel, the situation is irretrievable.

Dr M Morgan

III At a cardiac arrest the first procedure is to take
your own pulse
IV The patient is the one with the disease
VII There is no body cavity that cannot be reached
with a 14g needle and a good strong arm
X If you don’t take a temperature you can’t find a
fever
XIII The delivery of medical care is to do as much
nothing as possible

Samuel Shem

Smith’s law of pharmacology: If a drug is lipid soluble,
it will be absorbed orally, it will cross the blood-brain
barrier (BBB) and the placenta, it will be reabsorbed
by the kidneys and will therefore be metabolised and conjugated; if a drug is water soluble, it will not be absorbed orally, it will not cross the BBB or the placenta, and will be filtered by the kidneys.

Extremes of opinion and practice are the posts that mark out the path of medical progress.

Always remember that the kit you are using was made by the lowest bidder.

Salmon’s law: When anaesthetising children, the sum of the pulse rate of the child and the anaesthetist will always equal 150.

Winn’s modification: That a coefficient be applied to Salmon’s law where the more junior and frightened the anaesthetist the greater is that coefficient.

Aunty Gwen’s rule: Wait until you see upper limb flexion before you take the tube out and you won’t see laryngospasm.

Muscle relaxants do not make the hole bigger, they do not relax bone, they do not decompress bowel, they do not give a surgeon judgement, and they do not relax fat.

You can take an orthopaedic surgeon to slaughter, but you can’t make him think.

Dr Phil Keep

On making it count:

Sutton’s law: Sutton, an American bank robber, was asked as he was about to be hanged, why he robbed banks. ‘Because that’s where the money is’.

Cullen’s law: Rugby is a game of possession, but mostly of territory; in order to win, any incursion beyond the enemy’s 22 metre line must result in the scoring of points.

On sex:

The Urquhart-Malyon law: The innuendo implies the deed; in other words, if you see two people
behaving as if they’re having it off, they very probably are.

**On intensive care:**

*Thorpe’s maxim of intensive care:* If a patient isn’t going forwards, he’s going backwards.

The management of an intensive care patient is characterised by an initial period when resuscitation calls for administration of large quantities of fluid, and a subsequent period when it has to be retrieved.

The time to do a laparotomy is when you first think of it.

To a man with a hammer, everything looks like a nail.

**Barbara Morgan on obstetrics:**

General anaesthesia for Caesarean section for foetal distress kills mothers who had nothing wrong with them.

The anaesthetist is there to look after the mother: The paediatrician is there to look after the baby: The obstetrician is there to look after himself.

The decision regarding surgery is the obstetrician’s. The anaesthesia must be left to the anaesthetist.

**Seventeen rules of lecturing**

1. Don’t apologise for having insufficient time
2. Don’t apologise for the subject you’re presenting
3. Don’t turn your back on the audience
4. Don’t use grubby, faded, or handwritten visual aids
5. Don’t obstruct the view of the screen, with yourself or the projector
6. Don’t use abbreviations or acronyms without explaining them
7. Don’t use annoying mannerisms
8. Don’t invite students to write it down and then snatch the overhead away
9. Don’t wave the laser pointer around the screen or the audience
ANAESTHETIC AIDE-MEMOIRE

10. Do make sure you know where everything is in the lecture theatre before you start
11. Do introduce yourself
12. Do say at the beginning what you are going to talk about – and what you aren’t
13. Do speak up, and to the back of the room
14. Do make eye contact
15. Do produce a handout, which is intelligible
16. Do present a summary at the end
17. Never use any of the following words or expressions:
   - Interactive
   - It’s all in the textbooks
   - Group dynamics
   - Learning curve

How to describe a drug

A mnemonic for the description of any drug or preparation.

Pretty Cute Anaesthetists Can Undo Dresses Regardless Of Displeasure Clearly Covering Sister’s Expression In Theatre:

- **Presentation**: Tablets, injection, colour
- **Chemical nature**: Draw if appropriate, e.g. volatiles
- **Action**: At receptor level
- **Class**: e.g. Vaughan-Williams
- **Uses**: Stress anaesthetic uses but do not omit those that the rest of the world uses the drug for
- **Dose**: Obvious
- **Route of administration**: Again, obvious, but don’t guess; for example, alfentanil only has a licence for i.v. use, whereas fentanyl has a licence for i.v. and i.m.
- **Onset**: Rapid, slow, delayed
- **Duration of action**: Short, medium, long; state the half-life if you know it
- **Contraindications**: Absolute and relative
- **Complications**: These are the serious ones like asystole and agranulocytosis, in contrast to
- **Side effects**: Which are the trivial ones like nausea and vomiting, but these two do overlap
Elimination: Generally hepatic or renal, but remember pulmonary elimination and excretion of drug into breast milk. In general, if a drug is lipid-soluble, it will be absorbed orally, it will cross the BBB and the placenta, it will be reabsorbed by the kidneys and therefore be eliminated by metabolism and conjugation. If a drug is water-soluble, it will not be absorbed orally, will not cross the BBB or placenta, and will be filtered by the kidneys.

Interactions: With what, and the effect: Enhancement of one or other.

The gravid uterus: See above.

How to handle a clinical nightmare at the primary

- Can I get out of giving this anaesthetic?
- Can I get someone else to give this anaesthetic?
- Can I stall by getting a physician to optimise therapy?
- If I must give it, can I have a senior colleague present?
- Can I get out of giving a GA by using a regional or local technique instead?

- The penetrating eye injury is not a surgical emergency, and can wait until starved, and even then can often be done under local anaesthesia.
- #NOFs do not have to be done at 03:00 as long as they are done within 48h
- At the rapid sequence induction, I shall give a predetermined sleep dose of induction agent, at other times I shall titrate to response.
- At the rapid sequence induction, I shall give a calculated dose of suxamethonium immediately the patient is asleep; at other times I shall first ensure that I can control the airway.
- If I forget suction at the rapid sequence induction I shall not pass the exam.

Four quotable papers which have influenced anaesthetic practice

Chassot PG, Delabays A, Spahn DR: Preoperative evaluation of patients with, or at risk of, coronary artery disease.
How to optimize this group of patients.

First paper describing combined spinal epidural analgesia.

Guidance and algorithm for management of hypertensive patients: it’s 160/100, since you ask.

Meta-analysis of 141 trials and 9559 patients. Incontrovertible evidence that neuraxial blockade reduces postoperative mortality and all markers of morbidity.
PREOPERATIVE MANAGEMENT

Preoperative assessment

This is intended to remind the busy anaesthetist of the essential questions and features of examination and preoperative investigation.

History

Previous general anaesthetics
Family history of allergy or adverse reaction. The important ones are malignant hyperpyrexia and suxamethonium apnoea.

Past medical history
General health and systematic review, with special reference to exercise tolerance, orthopnoea and other indicators of ischaemic heart disease.

Specific questions:
- Coryza or productive cough
- Dyspepsia: If so, is there oesophageal reflux?
- Smokes: Anticipate airway irritability in heavy smokers
  - The other problems associated with tobacco include:
  - High carboxyhaemoglobin levels, which impair oxygen carriage
  - Ciliary dysfunction
  - Increased secretions
  - Bleeding tendencies: Easy bruising is a good discriminator
- Drugs
- Allergies
ANAESTHETIC AIDE-MEMOIRE

Examination

- **Teeth**: Loose teeth, false teeth, caps or crowns
- **Mouth**:

<table>
<thead>
<tr>
<th>Mallampati classification</th>
<th>Wilson grading (jaw protrusion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Uvula, complete view</td>
<td>A Lower incisors beyond upper</td>
</tr>
<tr>
<td>II Base of uvula only seen</td>
<td>B Edge-to-edge</td>
</tr>
<tr>
<td>III Soft palate in view</td>
<td>C Lower cannot come edge-to-edge. Always difficult.</td>
</tr>
<tr>
<td>IV Hard palate only</td>
<td></td>
</tr>
</tbody>
</table>

- **Neck**: For flexion and extension, and for precipitation of vertebro-basilar insufficiency if susceptible
- **Weight**
- **Chest**: Auscultation; blood pressure, heart rate, heart sounds

Investigations

Use a matrix built around haematology, chemistry, X-ray and clinical measurement to remind you:

<table>
<thead>
<tr>
<th>Serology sickle</th>
<th>XM, Hb</th>
<th>Potassium</th>
<th>Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clotting</td>
<td>Haematology</td>
<td>Chemistry</td>
<td>Liver function ECG</td>
</tr>
<tr>
<td>CXR</td>
<td>Radiology</td>
<td>Clinical measurement</td>
<td>ECG</td>
</tr>
<tr>
<td>Cervical spine</td>
<td>Thoracic inlet</td>
<td>FEV1/FVC, PEFR</td>
<td>Echo</td>
</tr>
</tbody>
</table>

The National Institute for Clinical Excellence (NICE) issued clinical guidelines on the use of routine preoperative tests for elective surgery in 2003. The information can be obtained at http://www.nice.org.uk. The surgical grade and American Society of Anaesthetists grade are used in multiple tables to determine what tests to order.
ANAESTHETIC AIDE-MEMOIRE

Surgical grades

Grade 1 (minor)  e.g. Excision lesion of skin
Grade 2 (intermediate)  e.g. Hernia repair
Grade 3 (major)  e.g. TURP
Grade 4 (major+)  e.g. Laparotomy
Neurosurgery  Cardiovascular surgery

American Society of Anesthesiologists (ASA) classification

I  No illness
II  Mild
III  Incapacitating illness
IV  Illness which is a constant threat to life
V  The moribund patient submitted for surgery in desperation is added to denote emergency

Day surgery unit selection criteria

Day surgery may account for more than 50% of elective general surgery. There are financial, patient-satisfaction and waiting list imperatives driving the development of day surgery.

These examples are appropriate for day surgery:

- General surgery: Laparoscopic cholecystectomy, hernia repair (open or laparoscopic), varicose veins, circumcision, removal skin lesions, sigmoidoscopy, lymph node biopsy
- Urology: Cystoscopy, vasectomy, excision epididymal cyst
- Gynaecology: Hysteroscopy, laparoscopy (including sterilisation), termination of pregnancy
- Orthopaedics: Arthroscopy, change of plaster, release trigger finger
- Dental: Conservation, extractions, frenectomy, removal of metal
- Ear, nose and throat: Myringotomy, tonsillectomy, polypectomy, examination under anaesthesia

The following are inconsistent with day surgery:

- Medical: Ischaemic heart disease, advanced hypertension, congestive cardiac failure, bleeding disorders, diabetes
ANAESTHETIC AIDE-MEMOIRE

- Diabetes mellitus, obesity with body mass index (BMI) over 35, muscular disease, poorly controlled epilepsy
- *Surgical and anaesthetic*: Malignant hyperpyrexia susceptibility, previous anaphylactic reaction to anaesthesia. Suxamethonium apnoea is controversial
- *Social*: No transport, telephone or supervision for 24 h

NCEPOD degree of urgency

- *Elective*: At a time to suit both patient and surgeon
- *Scheduled*: Early operation, usually within 3 wks
- *Urgent*: As soon as possible, usually within 24 h
- *Emergency*: Immediate, resuscitation simultaneous with operation

Nil by mouth

*Solids and liquids*

Adults are traditionally starved 6 h to solids and 3 h to liquids. Children should be starved for shorter periods. The issue becomes irrelevant in an emergency, although it is valuable to know the duration of the interval between last meal and trauma or administration of opiates, since this is more relevant in terms of gastric emptying than the interval between last meal and induction of anaesthesia.

Thromboembolic risk

Prophylaxis if indicated (see below).

Premedication

- Nothing is so useful as the preoperative visit
- *Patient’s normal medication* (but not oral hypoglycaemics, oral anticoagulants, and possibly not monoamine oxidase inhibitors)
- *Nothing*: *Emla cream and a parent*; In the under three, consider augmenting this with oral atropine (0.425 mg or 0.85 mg)