on the pods

Planning an Operating List

With Dr Rewa Keegan, General Surgeon & Surgical Superintendent at Royal Prince Alfred Hospital

Planning an operating list is a common and important task for junior doctors and surgical trainees. This podcast talks about the approach to planning an operating list and how to manage some of the common problems that occur.

Case - You are working on the general surgery team in a tertiary hospital, managing patients with a variety of different surgical conditions, and your team is on call for trauma surgery as well.

1. **What are the key steps that you take when planning an operating list?**
   - The principles should be based on meticulous planning, excellent communication, and a multidisciplinary approach to patient care
   - The JMO's first contact with the patients will often be at the pre-admissions clinic (PAC).
     - Keep track of questions, concerns and uncertainties that can need to be discussed
   - Key factors that should be considered when planning the list:
     - Realistic estimate for turnaround time between cases (8 hours of operating time does not equate to 8 hours of cutting – more like 3-4 hrs sometimes!)
     - Who else needs to be involved:
       - ICU, HDU, wards
       - Blood bank
       - Other medical or surgical teams
       - Company reps e.g. if special implants or prostheses are needed
       - Porters, cleaners
     - JMOs are commonly required to make sure the list is complete with all patient details & submitted by 10am the day prior

2. **What factors determine the clinical urgency for placement on an operating theatre list?**
   - There are 2 factors to consider for elective operating lists:
     - The priority for patients getting on an elective list
     - The order for each patient on an individual list
   - The surgeon will generally prioritize patients based on a "clinical urgency code". A common method uses 4 categories:
     - Needs an operation within 30 days (usually patients with cancer or painful condition)
     - Needs an operation within 90 days (non-life threatening but that may be imposing on quality of life e.g. a mildly painful hernia)
     - Needs an operation within 1 year (essentially an elective operation where the diagnosis poses no threat to life and may have only minimal impact on QoL e.g. a lipoma, mildly symptomatic hernia, elective orthopaedic surgery)
     - Delayed or staged procedure
       - Determining the order of the list is complex & depends on patient factors, but also equipment & specialist availability

Patients who should go first/earlier

- Children, developmentally delayed patients
- Diabetic patients
- Very elderly patients
- Patients with specific medical issues e.g:
    - anticoagulated (e.g. heparin infusion that needs to be ceased at certain time)
    - patients who require timed pre-operative blood products (e.g. liver & haem patients)
- Patients who will be non-compliant with or not tolerate fasting/waiting
- Patients with latex allergy or malignant hyperthermia must go first

Patients who should go later

- Cases under local anaesthetic (short recovery time)
- Inpatients (who already have bed)
- Infective or biohazard patients (e.g. MRSA, VRE) as the operating theatre will require a terminal clean

3. Is there a system for categorising the clinical urgency of emergency theatre cases?

- **Category 1 Immediate Life Threatening** - Requires surgery within **15 minutes** (e.g. ruptured AAA)
- **Category 2 Life Threatening -** Requires surgery within **1 hour** (e.g. ruptured viscus)
- **Category 3 Organ/Limb Threatening** - Requires surgery within **4 hours** (e.g. ischaemic leg)
- **Category 4 Non Critical, Emergent** - Requires surgery within **8 hours** (e.g. acute appendicitis)
- **Category 5 Non Critical, Non-Emergent, Urgent** - Requires surgery within **24hrs** (#NOF, perianal abscess)
- **Category 6 Semi-urgent not suitable for discharge** - Requires surgery within **72hrs** (e.g. minor ortho/plastics)

4. What role does the anesthetist play in preparing the list? What is the role of the pre-admissions clinic (PAC)?

- Surgeons should communicate with the anaesthetist, let them know about particular concerns, and take into account the anaesthetic opinion of the operating list order
- Anaesthetists sometimes have a different set of concerns than surgeons e.g. the easiest surgical case may have the most difficult airway
- The PAC is usually run by anaesthetists in conjunction with JMOs
- The role of the PAC includes:
    - A risk assessment for the proposed surgery and anaesthetic approach
    - A thorough protocol-based history and examination, which is used to determine the current fitness level of the patient
    - Investigating potential issues preoperatively e.g. cardiac or respiratory conditions
    - Anaesthetists deciding (often in consultation with the surgeon) on the management of preoperative medications inc. anticoagulants, diabetic & cardiovascular meds
    - Ensuring all necessary tests are completed (e.g. bloods, imaging, ECG)
    - Ensuring a peri-operative plan is documented
    - Ensuring patient consent form is checked to be valid & complete

Details that should be documents at the PAC:
Operation Specific

- Procedure & technique e.g. laparoscopic
- Laterality
- Type of anaesthetic
- Urgency
- Any special equipment required (e.g. fluoroscopy)

Patient Specific

- High BMI, diabetes mellitus
- Severe cardiopulmonary disease
- Anticoagulant or antiplatelet medication
- Active infections
- Any other severe ongoing pathology

5. **What other units need to be involved when planning the list e.g. ICU, TPU, the ward?**
   - Ward & NUM – should have printed list of anticipated admissions
   - ICU/HDU – beds should be prebooked, discussed with the admitting ICU doctor, and called on morning of surgery to confirm availability
   - Bed Manager – need to be notified of patients presenting through ED (no bed = no surgery!)
   - Radiology – need to be booked for any cases needing II or using a hybrid suite
   - Blood bank – need to be notified of any cases where blood products may be required

6. **What happens when you are asked to book an emergency or trauma case during the day?**
   - An emergency case may interrupt the flow of the operating list
   - If a second theatre is available this should be utilised, however emergency theatres are often full so the elective list must occasionally be interrupted
   - The urgency of the emergency cases need to be determined
     - Can this case wait for 4-6 hours or does it need to be done sooner?
   - The JMO and Registrar must communicate with the theatre NUM and anaesthetist regarding the new patient to ensure the right equipment is available and adequate pre-operative workup is complete

7. **What happens when a case takes longer than anticipated?**
   - The key is anticipation and good planning
   - When this occurs it usually results in the following cases being delayed or cancelled
   - There are significant repercussions in terms of cost, resources, patient flow - therefore this should be prevented wherever possible
   - Inform the theatre NUM early
   - Most importantly let the delayed/cancelled patients know – the earlier they know and can be rebooked the better. This can be frustrating for patients, though most understand if there is an emergency or unanticipated complication. It is better to warn a patient early on that they may be cancelled than to inform them at the last minute

8. **What are some of the common mistakes or pitfalls when planning the operating list?**
    - Overbooking the operating list
    - Inappropriate patient order, which will often lead to delays
    - A common JMO error is omitting important details from the operating list including:
        - Patients weight and the need for a bariatric bed
        - Need for blood products, whether X-match done
        - Need for radiology (II)
        - Need for special equipment

9. **Are there any guidelines available that can help you? Who can you ask for help?**
    - Below is a link to an excellent summary from the UK on the principles of organising an operating list
    - If you are unsure about anything on the operating list you can always ask the registrar or the consultant directly

10. **Any take home messages**
    - The key to organizing a successful operating list is preparation and communication
    - The list order is very important and determines how efficiently the day will run
    - If you think there are problems with the list then you must raise this with the consultant
    - Use the time at PAC to check all the details and make sure the patient has had adequate pre-operative workup
    - Find out why your consultants and registrars organise lists in particular ways – if you have a good understanding then it is easy to pick up errors

References

Lin Z, Moore TJ. **Principles of organizing a surgical list.** Surgery. Elsevier Ltd; 2014 Mar 1;32(3):105–8. DOI: 10.1016/j.mpsur.2014.01.001