Specimen fixation:

- **10 % buffered formalin**
- **volume ratio:**

specimen	:	**formalin**
1	:	10

- Formalin **penetration** at ± **1mm / hour**
- **Large specimen** may be **cut** without disturbing the anatomy!
- **Identify critical margins** by i.e. suture placement
- **Bowel resection** specimens should be **emptied** of faeces/blood (even if you don't particularly like the pathologist!)
- **Not adhering** to the above leads to **poor fixation** due to autolysis
- **Tissue** may be **useless** for histological evaluation and diagnosis i.e. **critical** diagnosis **can not** be **established**

Biopsy procedures

1. The **larger** the lesion the more **numerous** the biopsies should be – variability of tumour
2. Ulcerated tumours – biopsy margin to **include viable tissue**
3. **Deep** biopsies (tumour / stroma **interface**)
4. Deep seated lesions may have significant **surrounding reaction** i.e. inflammation, fibrosis

– **biopsy not diagnostic if from this site**

5. **All** biopsy fragments should be submitted – indeed the **smallest** one may contain i.e. tumour
6. **Avoid crushing / squeezing artifact** – impossible to interpret
7. **Fix** tissue specimen **immediately**
8. **Plan** for need of possible **special studies** i.e. electron microscopy – discuss with pathologist

Frozen section:

- Only **limited indications**
  (**discuss** with pathologist the day prior to surgery)

Indications:

- Frozen section diagnosis will **influence surgical procedure** to be done
- **Excision margins**
- **Confirmation** that **viable** histologically useful tissue has been **sampled**

- **Certain tissues can not be examined**: NB **Bone, calcified tissue**

- F/S may leave surgeon with **inconclusive** diagnosis – may **need paraffin sections**

- Cases with **infective conditions** i.e. active tuberculosis, hepatitis, HIV / AIDS pose a **risk** for the medical technologist in particular and should if in any way possible **not be done**