

# **Peter MacCallum Tissue Bank Tissue Fixation Protocol. Standard Operating Procedure #4**

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## **Purpose of Document:**

This protocol documents the procedure to be followed in the formalin fixation of tissue collected by Peter MacCallum Tissue Bank.

## **Principles:**

- The aim of this procedure is to preserve tissue in optimum condition for application to a wide variety of research techniques
- Material is embargoed for 2 weeks prior to processing to ensure availability for diagnostic recall.
- All formalin fixed tissue collected by Peter MacCallum Cancer Center Tissue Bank has been fixed in formalin for 24hours or less as of the date of instituting this SOP.

## **Procedure**

1. When notified that the surgical specimen has arrived in the Pathology laboratory/ is available for collection from theatre for immediate transport to Pathology, Tissue Bank staff should allocate a unique specimen number to the sample. All collection tubes should be numbered accordingly
2. Tissue is divided by the Pathologist into 2 pieces, approximately 2/3 is snap frozen in liquid nitrogen and 1/3 goes in to formalin. Pathologists are encouraged to divide the tissue such that it fits into a standard histokinette cassette.
3. Should a larger piece be obtained, immediately upon return to the Tissue Bank laboratory, this fixed tissue is removed from the formalin tube and examined in the fume cupboard. The tissue should be divided so that each piece is no thicker than 4-5mm and then placed in a histokinette basket labeled with the P number, specimen number and 4 digit code denoting tissue type. See below.
4. The tissue is held in 10% neutral buffered formalin for not less than 4 hours and not more than 24hours. It is then processed and embedded in paraffin by PMCC histology staff.
5. All tissue will thus be fixed in formalin for a period of 24hrs or less. Where this fixation period is exceeded, a note should be made in the day book. ***For Friday surgery, adequate fixation must be determined by the formula: Imm***

*penetration of formalin per hour for first hour, then 1mm penetration per 3 hours for subsequent thickness at room temperature.*

6. For core or needle biopsies, fixation should only proceed in formalin for 1 hour followed by embedding in paraffin.

#### **Four Digit Code for Solid Tissue Labelling**

Normal tissue: 00-09

Malignant Tumour tissue: 10-19

Benign Tumour tissue: 20-29

Example, 2 pieces of solid tumour tissue (patient 555 and specimen number 04-00222) should have the cassettes labeled: 04-00222 on front sloped face, P number 555 on one side and 10-01, 10-02 on the side. Where 2 separate pieces of tumour tissue are given by the pathologist, these will be entered separately in the database as 10-xx and 11-xx.