

## *Fixation of tissue*

- Tissue should be placed in fixative immediately after removal. Time for fixation varies with the size of the sample. Smaller samples are fixed for a few hours, while larger tissues require longer periods of fixation.
- Thickness of tissue samples is especially important because of its effect on fixative penetration.
- Samples of no more than 3mm thick should be placed into a cassette and immersed in a solution of 10% neutral buffered formalin (NBF). The volume of NBF must be 15-20X more than the tissue volume.
- When placed in a cassette, at no time should the sample be so thick that it touches both the top and bottom of the cassette.
- For your convenience, 10% NBF and tissue cassettes may be provided to you by the Histopathology lab at no cost.
- Samples can be fixed at room temperature, however if you plan to freeze your samples first, do not place in 10% NBF. Contact us for procedures on how to do this with minimal damage to your tissue sample.
- Other recommendations:
  - Kidneys, hearts, and large tumors should be sliced in half for proper penetration of fixative.
  - For best fixation of liver samples, lobes should be sliced into strips. Also be advised that if you plan to store liver for an extended period of time in fixative, you should use a 20X volume of fixative and change it every few days until the tissue is processed.
  - Skin samples need to be placed between 2 dampened sponges to prevent them from rolling up.

Please contact Histopathology at [lmyers@usuhs.mil](mailto:lmyers@usuhs.mil) if you have any questions regarding fixation of tissue.