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1. PURPOSE OF FIXATION

Fixation is the process by which the morphology and microscopic anatomy of a tissue is preserved as life like. It can be defined also as a process in which a tissue specimen is treated by exposing it to a fixative for a particular period of time in order to facilitate the succeeding steps. The purpose of fixation is primarily to prevent autolysis and putrefaction, and protect the tissue from subsequent processing.

Putrefaction is caused by bacterial invasion leading to subsequent destruction of the tissue.

Autolysis is self- destruction due to the action of enzymes which are liberated as soon as cell dies. Autolysis leads to the disappearance of nuclei, cloudiness of the cytoplasm and the cell loses its staining property.

Fixation is also aimed at;

minimizing the risk of infection,

preventing the destruction of the structure of the tissue either by shrinkage or swelling of the cell

providing a condition to allow clear staining of a section, and increasing optical density.

2. Compound Fixatives and their composition

Formal saline

Composition

Sodium chloride, distilled water and formaldehyde

Zenkers fluid

Composition

Mercuric chloride, potassium sulphate, sodium sulphate, distilled water, glacia acetic acid

Bouin's fluid

Composition

Picric acid(saturated), formalin, Glacia acetic acid

Champy's fluid

Composition

Potassium dichromate, chromic acid, osmium tetroxide

Neutral buffer formalin

Composition

Formaldehyde, sodium phosphate monobasic, sodium phosphate dibasic