Histological Marking Colours

- For effective marking of surgical margins of tissues in seven different colours
- For fresh & with formalin fixed tissues
- Maintain proper orientation of specimen
- Process multiple specimens in one single cassette
- For paraffin blocks and frozen sections
- Useful in Dermatology, Gynecology, Pathology, Urology, Surgery …

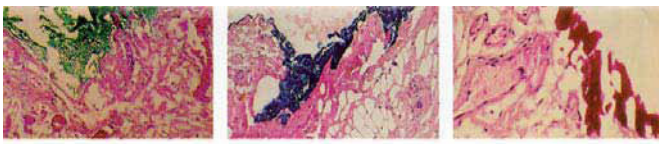
PERMANENT COLOUR MARKING DYES NOT FADING BY HISTOLOGICAL PROCESSINGS

Histological Marking Colours

These six figures show the dyes applied to a variety of surgical specimens. In all cases the dyes were applied while the tissue was fresh, and the pictures themselves are from the paraffin sections. They clearly demonstrate the impressive marking capabilities of the various dyes.

Slide E is a lower power magnification demonstrating how the dyes can be seen even at a lower power.

Slide F is of interest for it shows an area at the junction marked by the blue and green dyes, and actually shows both dyes in the same field.



Slide A | Slide B | Slide C

Slide D | Slide E | Slide F

Instruction for use

The enclosed dyes were originally developed to enhance the orientation of surgical specimens submitted for MOHS chemosurgery. These dyes have subsequently been used for a variety of applications. The following are some ideas pertinent to their application.

Never apply any of the dye materials to a living patient. Only use them on tissue which has been removed. These are pigments which if placed in the living tissue could cause permanent colouration.

There may in fact be a variety of uses for these dyes. None should be tried without appropriate laboratory investigation first.

The normal application of these dyes is to mark the surgical margins of tissue. The dyes are most effective when applied to fresh tissue, but work almost as well when applied to tissues already fixed in formalin.

Fresh tissue should be patted dry. Fixed tissues should be wiped gently to remove the fluids covering the tissue surfaces. The dyes can be applied in a variety of fashions. Many have found it useful to use wooden orange sticks. The stick is dipped into the dye, the orange stick is scraped along the bottom, excess fluid is removed from the stick by touching it to the top of the bottle and the aide of the stick is applied to the appropriate tissue margin.

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If large surfaces are to be coated with these dyes, a cottontipped applicator is often useful. This too can be dipped into the dye and then the dye painted on the tissue surface.

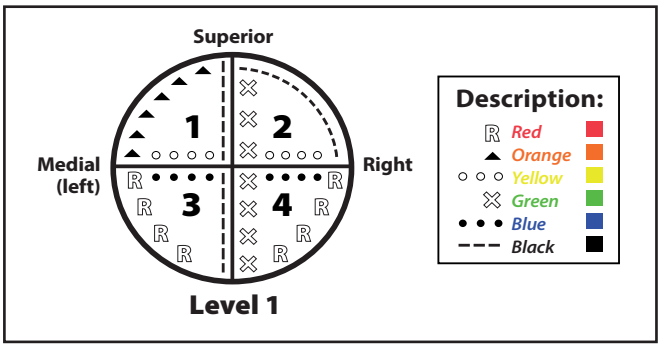
The dyes require 1 to 2 minutes to bound to the tissue surface and should be left alone for this period of time. It is not necessary to dry the tissue such as with a hair dryer. Simply allowing them to sit in the open air for a period of time 1 to 2 minutes is suffcient. The tissue can then be placed on a chuck and prepared for frozen section. Only small amounts of dye are necessary for effective marking.

After use, the caps should be kept on the bottles, for if they dehydrate they will become ineffective.

The following represents a typical application for these materials. Imagine a circular piece of skin removed in the excision of a skin cancer (as noted in the illustration below). The tissue is then cut into 4 appropriate-sized pieces and prepared for frozen section.

The surgeon and pathologist maintain precise orientation for each piece of tissue. The dyes are then applied to the various tissue surfaces and a map is made documenting this application and orientation. Different symbols can be used for each colour. It is best to develop a consistent set of symbols.

Commonly used symbols are shown in this figure:



An alternative application system is to put an ounce of dye into a small plastic squeeze bottle such as those that contain oil for oil immersion microscopy. The dye can then be placed on the tissue simply by squeezing the bottle and rubbing the tip of the spout along the tissue.

The principal application for the marking dyes is to assist in the orientation of surgical specimens.

The most common application is where multiple margins need to be marked, as is performed for skin cancer using the orientation described by Dr. Frederic Mohs.

Certainly the dyes are useful in marking the surface of any surgical specimen. Many have found the multiplicity of colours superior to a single colour. There appears to be a wide variation in colour preference, in part due to personal preferences, and in part because there is some variability in the adherence of the dyes to the fixing chemicals and techniques, as these will vary from one laboratory to another.

Another interesting application for the multi-colour marking dyes is the ability to process multiple specimens in a single cassette.

For example, if several skin tags were removed and one chose to examine all of them microscopically, 6 could be given different colours, placed in a single cassette, and processed as a single specimen. The cost savings for this is obvious.

Before using the dyes for this application each laboratory should validate the consistency of the dyes in their own institution. While it seems prudent to use this concept on multiple benign skin lesions where the probability of malignancy is very small, it would not seem wise to use this application to process specimens with a high probability of malignancy.

Surely there are many interesting and useful applications for these dyes. Each new application must be carefully explored prior to general recommendation.

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