

Which Pens and Inks?

What types of pens/inks can safely be used to site-mark patients for surgery?

From a medico-legal standpoint, only FDA-approved inks should be used to site mark patients for surgery. The vast majority of surgical skin markers utilize gentian violet ink (a water –based ink with alcohol solvent). Despite claims by some surgical marking pen manufacturers, gentian violet does not qualify as being “permanent” ink.

True permanent markers (such as Sharpie brand markers) are not approved for direct intentional marking of human skin (especially in the surgical setting, where an open wound-the incision-may be involved). Permanent inks are known to produce inflammatory reactions upon coming into contact with sub dermal tissues (1). Consequently, any type of wound complication –related or not – could potentially be blamed upon the use of a non-approved marker on a surgical patient.

Non-toxic inks, which generally comply with ASTM D4236 standards, have no known long-term toxicity effects with repeated incidental skin exposures. The ASTM standard was specifically developed for art materials (2). Medico-legally, it does not approve the marker for intentional use directly on human skin, and certainly not for use near surgical incisions. Likewise, laundry markers, ball point pens, and sundry marking pens should not be allowed to find their way into the surgical setting.

If you have any doubts as to whether the pens you are using to mark patients for surgery are medico-legally approved for surgical use, request that the manufacturer confirm this in writing. If the manufacturer will not do this, do not use the pen on surgical patients! Should any wound complication occur, you will have no defense in court for marking the surgical site or incision with a non-approved ink. *Caveat emptor.*

References:

- 1) Granick MS, Heckler FR, Jones EW. Surgical Skin Marking Techniques. *Plastic and Reconstructive Surgery*. 1987;79(4):573-580
- 2) American Society for Testing & Materials. ASTM D4236-94(2005) Standard Practice for Labeling Art materials for Chronic Health Hazards. <http://astm.org>.