Ask the Clinical Instructor

A Q&A column for those new to the cath lab

Questions are answered by:
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"I am manager of a cardiac recovery unit. We are getting feedback that our shaving of patients may not be appropriate. My staff and I have been trying to find additional information from other facilities. We want to do the right thing for our patients, not just based upon someone's opinions."
— RN, Lansing, Michigant

If you are looking for evidence-based practice, you won't find it for this topic. Let's see if we can address this issue a little further, as well as expand it to "groin preparation" in general. As I travel, I see a lot of different ways that groins are prepped. Also, within facilities, staff sometimes have their own ways of doing things as well.

Hair Removal

I must apologize for not having many photos and graphics for this month's article. Let's just say that it is difficult to get patient authorization when you start to talk about taking pictures of areas "down there."

Most facilities now subscribe to the national standards of "clipping" and not "shaving." Our best protection against surgical site infections (SSI) is our intact skin. When you break the integrity of the skin, you have opened a pathway for agents to enter the skin and create an infection. Shaving the skin could leave some open wounds, both visible and invisible. Shaving with any type of a blade is no longer acceptable as a standard. Clipping is the recommendation.

"IHI [Institute for Healthcare Improvement] recommends hospitals and surgical centers simply remove all razors from operating rooms and supply areas as a first step toward adopting appropriate hair-removal techniques. The organization also says hair removal, when necessary, should be performed with clippers right before surgery, that hospitals should establish protocols for when and how to remove hair in affected areas, that patients should be provided with educational materials on appropriate hair-removal techniques to prevent shaving at home, and that shaving heart surgery patients for electrocardiograms conducted shortly before surgery should be avoided."[1]

Care must be taken for people who prefer, to put it tactfully, to shave their own private areas. If they shaved >24 hours before their procedure, their risk of infection increases substantially.[2]

If you notice someone has shaved their operative area, and you notice open wounds or non-intact skin, you should consult your institution's infection control practitioner for direction. If you have someone who provides pre-procedural patient instructions, they should instruct the patient regarding shaving. Most patient instructions are provided at the physicians' offices, and is not likely an item that they routinely discuss with the patient.

Also, there is something to mention about the usage of clippers. If you see red marks on the skin after using clippers, <u>YOU AREN'T DOING IT CORRECTLY.</u> In these cases, the clippers have created the same problem as the use of a razor blade — a pathway for infections to enter the body. Staff should review the clipper directions for use and use them accordingly. Clippers are not meant to provide a "close shave," but instead are intended only to remove the hair to the level of the skin.

How much hair should you remove? Simply put, remove enough to prevent hair from having to be ripped off after the procedure. I cringe every time I have to remove a drape that has come into contact with hair. It doesn't take that much effort to understand the size of the fenestration and adhesive area of your drape. When you have an extra one, cut out the circle (don't forget to include the sticky part) and let people see it so they can appreciate how much of an area needs to be shaved.

Do you shave the patient all the way to their knees just in case they might have to receive an intra-aortic balloon pump (IABP)? Some places do. I don't believe that there is a wrong or right answer to that question. In our lab, we do not. If the patient gets an IABP, the distal area can be quickly clipped before the securing devices (mechanical or stitches) are used.

One Side or Two?

I have seen labs that only shave and prep the right groin and do nothing to the left groin. I have seen places that shave both sides, but only prep the right side, and I have seen places where both sides of the groin are prepped and available through the drape.

There is not any evidenced-based answer. However, sometimes common sense should rule. Much of our job is to be "prepared for the worst" and react to it before things get too far out of control. Being ready for the "what ifs" should have us thinking ahead. If the physician is performing a diagnostic case and has a complication, one of the things that we need to be ready for is the use of the IABP. IF the left groin is not prepared, and IF, the cover for the fenestration is still present, how much of a delay would it be to now have to prepare the groin for IABP use? It would make sense to prepare both groins and have both ready in advance of the procedure. It also saves time in the event that the physician is unable to use the patient's right groin for access and needs to utilize the left groin.

Figure 1. Typical clipper used in removing hair. The blade should be level with the skin to prevent scrapes and abrasions. Only wireless and battery-powered clippers should be used. Blade heads should be changed between each patient use.

Skin Antiseptics

Your pre-procedural preparation should be defined by your infection control policies. Most facilities now use a 2% chlorhexidine gluconate (CHG)/70% isopropyl alcohol applicator for most skin penetrations (IVs, arterial access, surgeries, etc). There are some places that still use betadine/iodine forms of antiseptics.

Figure 2.

Pre-operative Shaving/Hair Removal

- Seropian, 1971

<u>Method of hair removal</u>

Razor	= 5.6% SSI rates
Depilatory	= 0.6% SSI rates
No hair removal	= 0.6% SSI rates

<u>Timing of hair removal</u>

Shaving immediately before	= 3.1% SSI rates
Shaving 24 hours before	= 7.1% SSI rates
Shaving >24 hours before	= 20% SSI rates

CDC

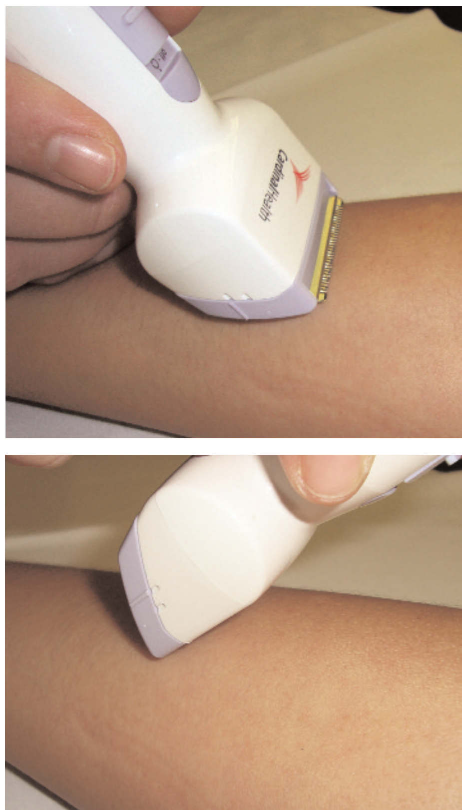

Figure 3. Clipper used in the correct way (top) and incorrectly (bottom).

These have been used for years, but require an understanding of their actions. Most require at least 2 minutes of "dry time" in order to begin to be effective.[3] The CHG applications begin their effectiveness immediately because of the isopropyl alcohol. The CHG substances also dry quicker and maintain their antimicrobial activity for up to 48 hours.[3]

If there is a groin that has a lot of "foreign materials" on it (from poor hygiene, for example) these materials should be removed prior to application of your antiseptic. I recommend utilizing a hand scrub brush and gently removing the material. An HCG washcloth could also be a good alternative. If worst comes to worst, utilization of good old soap and water with a washcloth will suffice.

If you notice obvious open skin before your procedure, and your facility's policy is to proceed with the procedure, you should remember a couple of things. Remember that most of the CHG quick applicators available utilize 70% alcohol in their solution delivered. This would cause the patient pain in the event of open wounds. In these cases, utilizing a betadine-type application could be appropriate.

Betadine must be completely dry before the drape is applied. This also allows time for its antimicrobial effects to begin. If someone is allergic to iodine, they should not receive betadine. In this case, consult your infection control practitioner for suggested alternatives approved for your facility.

Groin preparation is something that varies from place to place. There are no standard, specific guidelines for management. Your department should review their practices to make sure that what is being done is right for the patient, and is the best practice for reduction of SSI. n

Next month, we'll discuss the removal of arterial and venous sheaths.

Send your questions to: tginapp@rcisreview.com

References

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