



ACUPUNCTURE Canada

STANHEXIDINE® FOR SKIN PREP

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“Good evidence is a rare and valuable commodity in infection control.”

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Background

Skin preparation prior to performing acupuncture is a contentious issue.

Acupuncture Canada’s 2006 policy recommending the use of Stanhexidine® for skin preparation prior to performing acupuncture has been reviewed. The review process was initiated following publication of an opinion in the May 2009 *Newsletter of the Acupuncture Division of the Canadian Physiotherapy Association* by Barbara Shay, in which she criticized the Acupuncture Canada (then AFCl) policy. She described it as “unnecessary, a potential risk for both patients and practitioners, and not cost-effective”

Her first argument is that the incidence of infection following acupuncture treatment is very low (Hoffman, 2001; Lieffers & Mokink, 2002; Walsh, 2001). That is true, but the potential is always there and we know of two cases of serious cellulitis post-acupuncture performed by one of our faculty, bringing the seriousness of infection close to home.

Pratt (2005) notes that “the World Health Organization (WHO) and its Safe Injection Global Network (WHO-SIGN) no longer recommend swabbing clean skin with a disinfectant before giving intradermal, subcutaneous, and intramuscular needle injections (Hutin Y et al, 2003). A document published by Pratt in the *British Journal of Infection Control* since the Hutin article includes this statement: “Some observers, concerned over the increasing rates of healthcare-associated infections (HCAI) in NHS trusts, have questioned the quality of the evidence base that informed the WHO-SIGN and UK guidance and wonder if the decision to abandon pre-injection skin preparation is putting patients at risk of infection”. (Pratt 2005).

While a case can be made for not prepping the skin, human nature makes many people want it to be done or want to do it, in spite of evidence that supports not prepping. One UK hospital reported that “it can be difficult to interrupt a well-established ritual; eight years after a policy decision to cease routine pre-injection skin swabbing, 78% of staff surveyed...continued the practice....” (Hoffman 2001)

It should be noted that even though routine skin prepping was theoretically discontinued in parts of the UK, there was in place a policy to prep the skin of the elderly, the immune-compromised and on the buttocks, the latter probably for the obvious reason of increased likelihood of the presence of bacteria. The frequency with which one inserts needles into the buttocks when performing acupuncture for pain is high. One could argue that a swabbing practice that is universal removes the necessity for individual practitioners to remember to swab certain people and not others and certain places on the body, making it safer.

An interesting article that looks at both sides of this argument and ends by asking practitioners to weigh in with their opinions was published in 2005 by *The British Journal of Infection Control*. (Pratt 2005) We could find no subsequent publication that compiled practitioner replies.

Shay's second argument is that chlorhexidine has the potential to cause anaphylactic reactions. While this is true, virtually all of the published cases involve contact with mucous membranes; the incidence of cases involving application of chlorhexidine to skin appears to be miniscule, based on the papers that she used to argue her case. One of the papers Shay quoted was a 2004 case report that included the statement “Besides our patient, only one other case of severe anaphylactic reaction due to application of chlorhexidine on skin has been reported.” (Krautheim 2004) The case reported by Krautheim involved the application of chlorhexidine to broken skin, something that would be avoided in prepping for acupuncture needle insertion.

Since February 2009, Canadian Blood Services (CBS) has been using a product containing 70% isopropyl alcohol and 2% chlorhexidine to prep the skin prior to inserting a needle to draw blood from donors. Leaving this product on the skin for 30 seconds is the CBS standard. This protocol was chosen after a rigorous study to compare the efficacy and safety of several different protocols and its safety is monitored on an ongoing basis to ensure that there is not growth of bacteria in platelets, which are stored at room temperature. When CBS switched to this protocol from using an iodine prep, there were some mild self-limited hypersensitivity skin reactions that resolved quickly and they now screen individuals for sensitivity to this product via a questionnaire and use iodine when necessary (personal communication CBS, 2009).

While the CBS protocol uses 70% isopropyl alcohol and Stanhexidine contains 4% isopropyl alcohol, as Shay notes, “There seems to be a general acknowledgement that the use of 70% alcohol to prepare the skin for needle insertion has been found to be ineffective in preventing infection...”, (Shay 2009) so one could not attribute the proven antimicrobial action of the CBS product to its higher concentration of alcohol.

Use of Betadine for Intra-Articular Needle Insertions

For several years Acupuncture Canada advocated prepping skin with Betadine (10% povidone-iodine) when doing intra-articular needling. This was well accepted as a reasonable precaution, but is messy, since Betadine is orange and it stains.

Stanhexidine®

In 2005 it came to our attention, via one of our students who worked at Sick Children’s Hospital in Toronto, that they were using Stanhexidine® to prep the skin for acupuncture. This prep is commonly used in operating rooms and for skin disinfection.

Stanhexidine® is the trade name for a preparation that is 2% chlorhexidine with 4% isopropyl alcohol. The company website address is www.omegalaboratory.com/index.php/download_file/view/1854/329/

Chlorhexidine is used routinely in post oral surgery mouth rinses and for many other purposes; its use has been described as ‘ubiquitous’, meaning that it is just about everywhere.

This solution is tinted a pale blue colour to distinguish it from alcohol alone and is available in 450 ml plastic bottles with a flip top lid from which it can be dropped onto a cotton ball for application to the skin. Alternatively, it can be put in a pump-action alcohol dispenser. These can be purchased through a surgical supplier.

There is a description of the use of Chlorhexidine on the Mayo Clinic website that Professor Shay mistakenly portrayed as being the manner in which one would use it prior to needle insertion. That description is for the skin cleansing form of Stanhexidine to be used as a “wound cleanser and general skin cleanser”.

<http://www.mayoclinic.com/health/drug-information/DR602405/DSECTION=proper%2Duse>

Some reports have mentioned concerns regarding hypersensitivity reactions to chlorhexidine. While such reactions have been documented, they are considered rare (Krautheim et al., 2004; Goon et al., 2004; Snellman et al., 1999; Bae et al., 2008) for patients (Parkes et al., 2009) and for healthcare workers (Garvey et al., 2003).

Acupuncture Canada Policy re Stanhexidine®

Acupuncture Canada recommends the use of Stanhexidine® for skin preparation prior to needle insertion. It is recommended to first wash your hands, then swab all the areas where you intend to insert needles, whether or not they are intra-articular insertions, allowing the prep to dry for 30 seconds prior to inserting the needles.

NOTES:

1. Do not mistakenly purchase the 450 mL or 4 L bottle of Stanhexidine® 2% Chlorhexidine V/V 4% isopropyl alcohol, as it is intended for scrubbing skin, not prepping for injection. It is red, sticky and messy and is intended to be mixed with water. The skin prepping type, which is called Stanhexidine 2% Aqueous (450 mL), is the type that Acupuncture Canada recommends. Unfortunately, the manufacturer does not sell large bottles of this type.
2. You can use Betadine if you prefer; Stanhexidine® is more user-friendly and does not have to be removed with alcohol after treatment, so it is practical to use for all points.

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