Topics of Discussion

- History, changes and revisions to the PSSP
- Enforcement and legislation
- Mycobacterium outbreaks
- Blood-borne pathogens
- Disinfectant / germicide research
- Tools of the trade and associated infections
- Piercing, tattooing and body modifications
- Cleaning, disinfecting and sterilizing
- Aesthetic concerns at the Spa
- Methyl Methacrylate

History of Personal Services

- To reduce and control spread of infectious disease
- Unofficial survey of personal services (ON/QU)
- Lack of appropriate information in Health Units
- Not widely taught in Universities
- No solid, reliable data in the first place
- Very new to industry / fairly new to Public Health
- Ministry of Health and Health Canada Documents
- Minimum hours of classroom and practical training required in many states in US
- Mandatory guidelines clarify inspection role

PSSP – Ontario, 1998

Personal Services Settings Protocol

In accordance with the Mandatory Health Programs and Services Guidelines

Ministry of Health
Public Health Branch
January 1998

Health Canada - 1999

Infection Prevention and Control Practices for Personal Services: Tattooing, Ear/Body Piercing, and Electrolysis

Canada Communicable Disease Report

Supplement

Infection Prevention and Control Practices for Personal Services: Tattooing, Ear/Body Piercing, and Electrolysis

January 1999
By-laws - Licensing

- Strictest between Federal, Provincial, and Municipal should override when including by-laws (already considered in some health units)
- Licensing in Ontario – should be treated same as restaurants – approval required
- Only a few Health Units in Ontario seem to be licensing – in some cases only a one city by-law within the Health Unit

U.S.A. - Personal Services

- CDC infection control document from 1985
- Some states have mandatory training to allow a license to practice services
- Board of barbering and cosmetology
- “X” hours of classroom and practical application required
- Ear piercing guns banned in some states
- Cartilage piercing also banned in some states

What’s New in Personal Services

- Revisions to PSSP / working group
- New sections and additions
- New information and research
- More infections being revealed
- Industry getting more involved
- Past, present and future concerns
- Controversial issues
- Re - Education, promotion and awareness must be required for all groups involved

What’s New in PSSP

- More charts and tables
- Acupuncture section
- Ear LOBE piercing section
- Electrolysis - mandatory sterilization is no longer required
- The sink situation
- Hand hygiene
- Sterilization changes
- Minor tattoo changes

Acupuncture

- “…but not limited to” clause
- Needle manipulation not clear
- Ottawa document based on original PSSP
- Some other Health Units also enforcing
- Why a specific section was required
- Mycobacterium abscessus infections in Toronto brought to surface
- Acupuncture and T.C.M. seek regulation under the Regulated Health Professions act (RHPA)

“… but not limited to …” (page 1 – applicability)

This protocol applies to any facility or person offering services where there is a risk of exposure to blood, such as, but not limited to: hairdressing and barber shops, tattoo body piercing studios, electrolysis, and aesthetic clinics. The following guidelines comprise general recommendations for all personal service facilities and equipment. Requirements specific to each area of practice are presented in summarized formats following the general guidelines.
Must Be Sterilized

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
<th>Method of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Items</td>
<td>Items intended to penetrate the skin (used for invasive procedures) and items that hold needle tips.</td>
<td>Through cleaning followed by sterilization is required. Refer to Table 3 (page 36). Note: Sterile equipment includes disposable items and should be used in a manner that prevents cross-contamination. Non-sterile items cannot be adequately sterilized.</td>
</tr>
<tr>
<td>Semi-critical</td>
<td>Items that are not intended to be used on mucosal membranes or exposed body surfaces and items that come into contact with blood or body fluids.</td>
<td>Through cleaning followed by intermediate or high-level disinfection is required. Refer to Table 1 (page 22) and Table 2 (page 23) for more detailed information.</td>
</tr>
<tr>
<td>Non-critical</td>
<td>Items that come in contact but do not penetrate tissue.</td>
<td>Through cleaning followed by low-level disinfection is required.</td>
</tr>
</tbody>
</table>

Manipulation of needles

- Tattooing – manipulation by soldering and creating appropriate width
- Body piercing – manipulation by removing hub and fitting to size
- Micro pigmentation – manipulation same as tattooing
- Electrolysis – no manipulation clearly defined
- Acupuncture – is now defined as no manipulation (to clarify and avoid confusion)

Needle Manipulation in Tattooing

Example of Needle Manipulation in Body Piercing

Must Be Sterile, Single-use, Disposable

7.2 Electrolysis

The heat produced by the current passing through an electrolysis needle will not cause the needle to become hot enough to be sterilized. The temperature is only likely to reach 70-90°C and the period that the current passes through the needle is too short (1-2 seconds only) for sterilization to occur.

7.2.1 Additional Requirements to the General Guidelines

i. PWSs must wash their hands prior to putting on single-use (non-sterile) gloves before each client as well as after removing the gloves.

ii. Single-use, sterile needles must be used and disposed of after each client. Needles must not be saved for re-use on the same client.
Proposed PSSP Acupuncture

Acupuncture

- Sterile needles must be placed into the tissues of patients when performing acupuncture treatments. The patient’s skin must be cleansed before the procedure. The needles should be sterile and disposable. Acupuncture needles are single-use and must be re-packaged, sterile, single-use, disposable.

- Acupuncture needles must be sterilized by steam, ethylene oxide, or be single use disposable immediately after use.

- Many Asian manufacturers do not sterilize prior to shipping. This is a concern.

- Consider devices used to manipulate sterile needles (Chimbong – Korean hand acupuncture).

- New section defines needles to be supplied as pre-packaged, sterile, single-use, disposable.

- RHPA

Regulated Health Professions Act

Regulated Health Professions Act, 1991
Loi de 1991 sur les professions de la santé réglementées
ONTOARIO REGULATION 107/96

No Amendments

CONTROLLED ACTS

This Regulation is made in English only.

Forms of Energy

1. The following forces of energy are prescribed for the purpose of paragraph 7 of subsection 27 (2) of the Act:

   1. Electrivity for,

Emerging Issues - Mycobacteria

- More Mycobacteria infections being found

- Toronto is just one of latest to make health headlines

- Injectable cosmetics and pedicures

- Not all confirmed by culture

- Mycobacterium abscessus infections in Toronto (April to December, 2002)

- 29 people with skin infections (ongoing investigation)

- How link was made in Toronto

Mycobacterium abscessus Infections

- Adrenal cortex extract injections (ACE)


- Unlicensed alternative medicine

- Can be taken orally as well

- Used for weight loss, fatigue, stress, easing withdrawal symptoms, depression, etc.

- FDA claims “never been shown to be effective for treating any medical condition”

- FDA recall 1996 (poor manufacturing standards)

- New York City, January to June 2002

- 25 cases of skin infections from cosmetic injections (silicone, collagen, vitamin, etc)

- 12 required hospitalization (up to 51 days)

- 15 required invasive medical procedures, and antibiotic therapy (up to 6 months)

- 1 case had a bloodstream infection

- Wounds seeping fluid for months

Mycobacterium abscessus Infections
**Mycobacterium abscessus Infections**
- Santiago, Chile July to December, 2002
- 51 cases of infection from 5 cosmetic establishments
- Mesotherapy injections to reduce obesity
- Mycobacterium chelonae also possible (same family of bacteria)
- All 51 cases had extensive scarring (up to 4 inches long)
- Abscesses drained and up to 8 months antibiotics

**Mycobacterium fortuitum Pedicures**
- *Mycobacterium fortuitum* infection first recorded in 1936 (vitamin injection)
- California pedicure establishment
- Largest outbreak of *Mycobacterium fortuitum* in the USA
- 110 people affected with various infections
- One case had 37 open sores for months
- Hard to treat – antibiotics not always successful
- 20/20 episode got a lot of attention

**Mycobacteria Infection**

**Lack of Infection Control**
What's New in the PSSP

Not “Sanitizable” - Disposable

Disposable

Disposable

Clean and Disinfect Tub ......

.... And Screen

Mycobacteria Infections

- The five Mycobacteria outbreaks just discussed were all from elective procedures for cosmetic purposes (Personal Services)
- Expect to see more infections from Mycobacteria
- Use of disinfectants in establishments using semi-critical instruments (usually covered by intermediate level disinfection) will need to be reviewed to address this situation
- Mycobacteria requires high level disinfection
Why so many infections?

- Lack of knowledge of basic infection control procedures by operators and manufacturers and suppliers
- Not using proper disinfectant solutions, etc.
- Improper products and devices used for service
- Operators are unaware of the diseases that can be transmitted
- Many carriers are not aware they are infected
- Chronic carriers and incubation periods not considered

Linkages – Incubation periods

- The link between developing blood-borne diseases and infections, and the event in which it was contracted has been difficult to establish
- 10 year incubation periods (or worse)
- Some carriers never get sick
- Lucky to find link in Mycobacteria infections
- Some cases in Toronto acupuncture outbreak didn’t notice infection for five months

Blood-borne Pathogens

- Incubation periods and chronic carriers
- 1/3 of people with HIV in Quebec are unaware (recent study)
- Hepatitis B immunization
- Hepatitis C escalating
- Have to go beyond the big 3 (HIV, Hep B, Hep C) when considering infection control in Personal Services
- Many operators only using surface disinfectants

Hepatitis C - USA

- Over 4 million infected
- Over 3 million chronic carriers
- 35 000 new cases per year
- Virus can survive weeks on instruments
- 170 million cases worldwide
- Up to 70% chronic carriers
- Many showing no symptoms

Chapped Skin – Open Wound

Healthcare Workers with Skin Abrasions May Be Vulnerable to HIV and Hepatitis C Virus

NEW YORK, N.Y. - A recent case study in the April 2003 issue of the American Journal of Infection Control (AJIC) confirms that a healthcare worker with abraded skin contracted HIV and hepatitis C virus from an infected nursing home patient. This incident was substantiated by laboratory testing conducted at the Centers for Disease Control and Prevention (CDC).

The infected healthcare skin had no non-occupational risk factors for the infection, but was regularly exposed to the patient’s body fluids. The worker (dressed in disposable latex gloves while providing care for the patient) sustained superficial lacerations and abrasions to her skin, which allowed the virus to enter her bloodstream. The simultaneous transmission of HIV and hepatitis C virus has been reported due to needlestick injury and mucous membrane exposure, but this case suggests for the first time that “mixed-exposure” infected healthcare employees who are vulnerable to infection through unprotected chapped and abraded skin.
Disinfectant Dilemmas

Improper use of disinfectant solutions is the biggest PSSP problem. Operators educated by suppliers and salespersons. Chemical formulations clarified. Roughly over 80% Quaternary ammonium compounds. No pre-cleaning item, not making solution fresh, not immersing in solution, no contact time, etc. Convenience and ‘ease of use’ dictates use.

Name That Disinfectant

N - Alkyl
(60% C14, 30% C16, 5% C12, 5% C18)
dimethyl ethylbenzyl ammonium chloride

Low level disinfection

Although the big 3 are easier to kill than Mycobacteria, low level disinfection is not effective. Quaternary ammonium compounds are the most widely used by PSS operators. A surface disinfectant must never be used to disinfect a disposable item (sharps, etc.). One container of low level disinfectant used for days – dirty items thrown in and retrieved when needed for client (actually believing that this is effective).

Barbicide

Hepatitis C and Beauty Salons

- Barbicide “Spiked” with Hepatitis C Virus
- 3 hours later - positive result
- 6 hours later - positive result
- 1 week later - positive result !!!!

Intermediate to High Level Disinfection

Alcohol’s optimum concentration is between 70% to 90%. If solution is to pure (99% isopropyl alcohol, for example) it will not be effective in disinfection of item. Denaturation requires water to be effective. High level required for Mycobacteria. Stay away from toxic chemicals (Glutaraldehydes, etc.).
Disinfectant Solutions

70% to 90%

Disinfectant Solutions

70% to 90%

Levels of Disinfection

<table>
<thead>
<tr>
<th>Levels of Disinfection</th>
<th>Alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td>70% to 90%</td>
<td>70% to 90%</td>
</tr>
</tbody>
</table>

Health Canada’s Drug Product Database

Health Canada’s Drug Product Database

For Professional Use Only

Item #432

INGREDIENTS: Isopropyl Alcohol.

FOR PROFESSIONAL USE ONLY
Health Canada’s Drug Product Database

- D.I.N. #
- Brand name
- Company name
- Route of administration
- Pharmaceutical form
- Active ingredients and # of active ingredients
- Etc

Labelling Laws

- Ingredient labelling not mandatory
- Health Canada working on labelling
- Cosmetics exempt from MSDS/WHMIS

Disinfectant Research

- Dr. Syed Sattar and I are preparing a manuscript on the proper use of disinfectant solutions in personal service settings
- For various health professionals (Health Units, etc.) and infection control organizations
- To be used by operators, suppliers and manufacturers
- As an educational tool to be applied through proper health promotion and education

‘Barbicide Info Sheet’

- Flow Chart
- Disinfectant Charts
Information Mail outs

Piercing Problems - General
- Age restriction issue
- Driving services underground
- More piercing gun use
- One day body piercing courses
- After care is still a major concern
- Many secondary infections, disfigurements and surgeries required

After Care

Ear Lobe Piercing
- Re-defined section name
- Added note
- Cartilage mutilations
- Pseudomonas infections
- Illegal in some states
- Dermal punch
- Plastic jewelry to decrease allergic reactions to Nickel

Banned?

Fixed Stud Adapter and Clasp Retainer
What's New in the PSSP
What's New in the PSSP

Medical Plastic - Earrings

Medical Plastic - Earrings

Medical Plastic - Earrings

Plastic Body Piercing Jewellery

Plastic Body Piercing Jewellery

Piercing Problems - Guns

- Re-named Ear Lobe piercing section
- Special note on use of guns
- Can’t ignore secondary infections
- Gun piercing chemical solutions
- Disinfection of sterile items has caused infections
- Claims of promoting healing simultaneously
- Why disinfect a sterile item ????
- Driving body piercing services underground is not the answer (age restriction increases risk)
What's New in the PSSP

Mutilated Navel

Mutilated Cartilage

Mutilated Cartilage

Cartilage Infections

Surface piercing infection outbreak traced to nail store

Surface piercing infection outbreak traced to nail store

Body Modifications

■ Surface piercing
■ Dermal punch (biopsy tool)
■ Branding
■ Scarification
■ Implants
■ “Mods”

Surface Piercing
Dermal Punch

Implants
- Not a very common procedure
- Originally heading (or pearling)
- Transdermal and 3D-Art implants
- Dermal pockets formed away from incision site (similar to breast implants)
- METALS – stainless steel, titanium, niobium
- PLASTICS – nylon, Teflon, silicone, etc.
- Silicone injections

Implants

R.H.P.A.

Regulated Health Professions Act, 1991 - O. Reg. 357/96

8. The following activities are exempt from subsection 27 (1) of the Act:

1. Acupuncture
2. Ear or body piercing for the purpose of accommodating a piece of jewellery.
3. Earlobe punching
4. Training for massage purposes. O. Reg. 357/96, s. 8.

9. Male circumcision is an activity that is exempt from subsection 27 (1) of the Act if the circumcision is performed as part of religious practices to comply with O. Reg. 357/96, s. 9.

10. A categorised in exempt from subsection 27 (1) of the Act for the purpose of removing, in accordance with the Drugless Practitioner Act and the regulations under that Act, activities that are within the scope of the practice of a registered physician. O. Reg. 357/96, s. 10.

11. The taking of blood samples by a nurse or by a doctor is an activity that is exempt from subsection 27 (1) of the Act if the person taking the blood sample is employed by a laboratory or a blood collection service licensed under the Laboratory and Quality Control Act. O. Reg. 357/96, s. 11.
Some Tattooing Changes

- Disposable needle bar
- After care
- Accessible sink – translates to all (except ear lobe piercing)

Cleaning and Sterilizing

- Ultrasonic – cleaning device
- High level disinfection
- Cold sterilization = high level disinfection
- Autoclaving
- Dry Heat

Ultra-sonic

- Should always be in a separate room with sinks and autoclave, etc.
- Operating without lid is already a problem
- Lid may not be enough
- Enclosure has shown that contents are being aerosolized
What's New in the PSSP

**Ultrasonic Enclosure**

**Autoclaving**

- Many operators don’t understand sterilization (outside of Tattooing, Body Piercing, Micro pigmentation and Electrolysis)
- Three spore tests
- Prestige model – can also be used with packaging
- Proper packaging of instruments

**Packaging**

**Prestige Autoclave**

**Piercing Tools**
Various aesthetics

- Double-dipping still not clear
- Cosmetic policies (Shoppers Drug Mart, Loblaws, Giant Tiger, various cosmetic counters, etc.)
- Sharps – needle stick injuries
- Medical Spas and Cosmetic Clinics
- Bogus services

Double - Dipping

Sharps

Sharps – Needle stick

Ear Candling
Medical Spas
- Services not by a physician
- Laser
- Microdermabrasion
- Veins
- Wrinkles
- Fat reduction
- Tanning concerns
- Etc.

Laser Hair Removal
- Electrolysis being replaced ???
- Not around the eyes
- PSSP requirement
- Types of lasers
- Exposure to blood ???
- Shaving
- Skin contact
- Heat increases blood flow

PSSP Requirement 7.2.1 (vi)
Equipment/instruments used in laser hair removal must be cleaned and disinfected or sterilized.

Types of Lasers
- CO₂ laser - cuts skin
- Hair removal lasers do not
- Ruby (old style)
- Alexandrite (distance gauge – disposable)
- Alexandrite (good results - $$$$$)
- Yag – painful (good for dark pigment)
- Diode – very popular (more affordable)
Laser

Microdermabrasion
- Sanding the skin
- Powdered aluminum oxide crystals
- Crystals are very expensive
- Closed loop system a must
- Most from Europe – not closed loop
- Disposable tips
- Disposable lines

Microdermabrasion

MMA
- Methyl Methacrylate monomer banned in the USA
- Ban is in effect in Canada
- Enforcement will be difficult
- Regulations and laws not helpful
- Tell operators how to spot Methyl Methacrylate in establishments

Spotting Methyl Methacrylate
- Strong, pungent odour
- Causes headaches and dizziness
- Very inexpensive cost for service
- Nails are very hard (cannot be filed)
- Nails must be soaked in harsh chemicals for a long time (not usual acetone soak)
- Nails have to be pried off sometimes

Infection Leading to Amputation
MMA

Methyl Methacrylate (MMA) Monomer - Retailer Fact Sheet

Canadian manufacturers and distributors of nail products and services should be aware that Health Canada considers the use of methyl methacrylate (MMA) monomer to be unsafe for the purpose of cosmetic manicure preparations. This ingredient is not to be sold or distributed for cosmetic nail preparations due to its potential adverse effects such as fingernail damage and deformity, contact dermatitis, and other skin sensitization reactions.

Please note:

- The use of MMA ingredient poses a risk to the health and safety of consumers. Section 16 of the Food and Drugs Act states that no cosmetic may cause injury to the health of the user.
- Furthermore, Health Canada has not received notification of any cosmetics containing MMA, as would be required by the Cosmetic Regulations under the FDA.
- The strong adhesion properties of MMA can cause painful tearing and possible permanent loss of the natural nail, should the artificial nail be jammed or caught.
- Allergic reactions to MMA include red skin rashes, contact dermatitis, itching and/or small oozing blisters in the affected area. MMA may also cause irritation to the nose and throat, as well as headaches.
- Ethyl methacrylate, polymethyl methacrylate and other methacrylate polymers are all alternatives to MMA which are currently permitted in cosmetic products.

Methyl methacrylate (MMA), in unreacted monomeric liquid form, is inappropriate for use in cosmetics. MMA is mixed with acrylic polymer powder on the natural nail to constitute the body of the artificial nail. During the 1970s, the US Food and Drug Administration (FDA) identified MMA as a poisonous and deleterious substance that should not be used in fingernail preparations. The FDA won a court injunction to remove 100% liquid MMA from use after an investigation determined that MMA was not safe for cosmetic use. At least 34 US states have banned the use of MMA. Numerous injuries were reported to the FDA, including fingernail damage and deformity, contact dermatitis, and other skin sensitization reactions. Other side effects of MMA exposure include irritation to mucous membranes (nose and throat), headaches, and adverse skin reactions.

The Nail Manufacturers Council of the American Beauty Association and the Methacrylate Producers Association have also taken positions against the use of MMA monomer as an ingredient in artificial nail liquids.

Health Canada is hereby serving notice to importers and distributors of MMA monomer for use in cosmetic nail preparations to cease sale and distribution. Health Canada inspectors are empowered to take necessary enforcement action, including seizing product, should MMA sale be continued.

Labelling Laws

- Ingredient labelling not mandatory
- Health Canada working on labelling
- Cosmetics exempt from MSDS/WHMIS

Enforcement

- Section 13 order is only way to go (unless some local by-laws apply)
- Competition is a big factor
- Worker safety is a big factor
- Clients see the service as being done to them (can’t see inside the kitchen)
- FP vs. BPP
- Education and promotion goes far

Section 13 Order

ORDER

Health Protection and Promotion Act

R.S.O. 1990, c. H. 7, as amended, s. 13

DATE: March 30, 2003

TO:

1. Customer deposits; Public Health Inspector, Environmental Health Division, Public Health and Long Term Care Branch of the City of Ottawa, hereby order you to cease and desist in the provision of personal services until such time as the following conditions are met in the establishment of the City of Ottawa, Public Health and Long Term Care Branch:

   1. The premises shall be provided with an approved system of hot water; the personal service provider’s hands must be washed before and after each client.
   2. An accessible sink with potable hot and cold running water shall be conveniently located near the work area in which the services are provided; a clean and sanitary manner. The sink shall be of an appropriate size to accommodate the largest piece of equipment intended to be cleaned.
   3. Contact surfaces including counter tops, trays or other surfaces used to place

Education