Vestibular Testing-Private Facility

Standards & Guidelines

December 2008 v7

College of Physicians & Surgeons of Alberta

Serving the public by guiding the medical profession

Revision Date: **December 2008 v7**

Approval Date: June 1997

Originating Committee: Advisory Committee on Clinical Neurophysiology

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1.0 Introduction

Alberta's *Health Professions Act* provides for the accreditation of medical services in non-hospital facilities by the College of Physicians and Surgeons of Alberta. Section 8.1 in Schedule 21 of the *Act* states:

> **8.1(1)** A regulated member shall not provide a prescribed health service, or cause a prescribed health service to be provided, in a facility unless the facility is an accredited medical facility or a facility referred to in subsection (2).
>
> **(2)** Subsection (1) does not apply with respect to a prescribed health service provided in
>
> (a) an approved hospital within the meaning of the *Hospitals Act*,
>
> (b) a hospital operated by the Government of Canada,
>
> (c) a health care facility operated by the Government of Canada or the Government of Alberta,
>
> (d) a hospital, clinic or centre operated by a regional health authority under the *Regional Health Authorities Act*,
>
> (e) a facility within the meaning of the *Mental Health Act* or an accredited health centre established for the purpose of section 49(b) of the *Mental Health Act*, or
>
> (f) a facility that is prescribed in the regulations.

Vestibular Testing services are one of many health services for which the College requires accreditation. A complete list of prescribed health services is contained in the College's by-laws and available on the College's website.

The Advisory Committee on Clinical Neurophysiology is a standing committee of the College of Physicians and Surgeons of Alberta which advises the Medical Facility Accreditation Committee (MFAC) of the College with respect to all matters pertaining to diagnostic medical laboratories.

The Committee may consider issues related to the provisions of neurophysiology services, and these issues may include, but are not restricted to, the following:

1. Develop and maintain evidence based standards/guidelines for clinical neurophysiology practice;
2. Monitor compliance with College approved standards through on-site assessments for accreditation;
3. Assess physicians' qualifications and preparedness to interpret neurophysiology studies against College approved training requirements for EEG, EMG and EP;
4. Provide education to promote safety and quality improvement initiatives;
5. Facilitate of the introduction of new services;
6. Respond to the needs of stakeholders for improved clinical neurophysiology services in Alberta;
7. Review and audit of the business practices of the facility to ensure compliance with relevance College by-laws.

The College requires all accredited medical facilities to have a Medical Director (i.e. a practitioner who is registered with the Alberta College of Physicians & Surgeons) who is accountable for the practice of medicine within the facility. Medical Directors shall be satisfied as to the standing of other professionals with their respective regulatory bodies and as to the safety of their practices.

Note: This document incorporates standards and guidelines in a diagnostic and treatment facility approved by the MFAC/Council:

- **"shall" is used when a section is a <u>requirement</u> for accreditation;**
- **"should" is used when a section is <u>recommended</u>; and**
- **"may" is used when a section is <u>discretionary</u>.**

Due to the constantly changing spectrum of medicine, these standards/guidelines will be reviewed on a regular basis and revised when necessary. Input from facilities is encouraged to assist in keeping the document up to date.

2.0 Role of the College

2.1 Accreditation of Facilities

2.1.1 All neurophysiology facilities shall register with and maintain accreditation by the College.

2.1.2 Applications for accreditation of new facilities shall be made to the College.

2.1.3 Requests for additional modalities shall be made to the College.

2.1.4 The Standard of Practice #20 – Direction and Control of Medical Practice as established by the Council of the College are applicable for privately owned facilities.

2.1.5 Accreditation involves:

1. A review of a detailed questionnaire completed by the facility for each modality;
2. A review of selected tracings, requisitions/in-house worksheets and reports from the facility;
3. A review of the facility's manuals outlining policies and procedures;
4. A review of qualifications and training of medical and technical personnel.

2.1.6 The review, which is completed by one or more physicians (with expertise in the appropriate area of medical practice) designated by the College, is either a distance review or an on-site review.

2.1.7 "Full Accreditation" is granted to those facilities with no identified deficiencies.

2.1.8 "Interim Accreditation" may be granted for a 30-day period to those facilities with minor deficiencies to allow for their correction. A written response to each deficiency is required from the medical director/consultant of the facility. A follow-up assessment may be required at the sole discretion of the College. "Full Accreditation" will be granted when responses to deficiencies have been corrected to the satisfaction of the College.

2.1.9 Requirements shall be met before accreditation will be granted or renewed by the College.

2.1.10 The College may revoke accreditation if practice in the facility is considered unsafe.

2.1.11 A "Certificate of Accreditation" will be issued by the College to all facilities with "Full Accreditation".

2.1.12 Accreditation is limited to 4 years from the last date of approval unless extended by the College and may be renewed through a process of re-accreditation, which will follow the same steps as those for accreditation (refer to Section 2.1.5).

2.1.13 Payment to the College for the cost of the assessment is the responsibility of the Medical Director of the facility. (Private facilities only)

2.1.14 "Spot" assessments conducted without prior notice may also be conducted. These are at no cost to the facility.

2.2 Administration

2.2.1 A record of each facility shall be kept on file at the College.

2.2.2 The College shall be advised of any change of ownership of the medical practice or Medical Director of the facility.

2.2.3 Each facility is required to pay an annual fee, set by Council, for the administration of the accreditation program. (Private facilities only)

3.0 Personnel

3.1 Medical Director

When a private facility is providing a medical diagnosis or diagnostic medical service, a medical director is required.

3.1.1 Qualifications

1. The director of each facility shall be:

   i) A physician licensed to practice medicine in Alberta

   -and-

   ii) be certified as a specialist in Neurology or Otolaryngology with the minimum of the equivalent of one year of extra training in neurotology (assessment of the vestibular and hearing system) which is acceptable to Council

   -or-

   iii) be a physician who has been grandfathered prior to September 1, 1997, to be a director of a Vestibular Facility in Alberta.

3.1.2. Role

1. The Medical Director shall have direct control and be responsible for provision of diagnostic vestibular services.

2. Responsibilities may include, but is not restricted to, the following:

   - The day to day direction and supervision of the practice of medicine.
   - The quality of records and reports issued from the facility.
   - The approval of physicians interpreting vestibular tests and reporting vestibular diagnoses.
   - Providing direction and supervision of technical staff.
   - Ensuring an adequate quality assurance program in the facility.
   - Selection of testing procedures and equipment used.
   - Ensuring acceptable standards for ENG are met such as those of the Committee on Hearing Bioacoustics and Biomechanics[2].
   - Establishing and maintaining safety procedures.
   - Ensuring appropriate policy and procedure "manuals" are in place and up-to-date.

[2] *A current copy is kept with the Quality of Care Department, College of Physicians and Surgeons of Alberta.*

- Remitting an annual fee as determined by Council.
- Making the requested documentation available for accreditation.
- Remitting fees payable to the College for accreditation procedures.

3.2 Interpreters

A medical interpretation of vestibular tests is more than a descriptive reporting of results. It requires the synthesis of history, medical examination, and raw data into a vestibular diagnosis.

3.2.1 Approval

Interpreters of vestibular tests shall:

1. Be physicians licensed to practice medicine in Alberta, and be certified as a specialist in Neurology or Otolaryngology and have training in vestibular diagnosis which is acceptable to the Medical Director.

3.2.2 Re-approval

2. A physician who has been accredited or grandfathered, but who has not been interpreting vestibular tests and providing vestibular diagnoses for the last three years, shall complete an assessment and undergo upgrading acceptable to Council;

-and-

Upon completion of training, provide a letter attesting to his/her competence from the supervising physician.

3.3 Technologists

3.3.1 A technical staff member performing vestibular studies:

Shall be a graduate of a Post Secondary Institution in a healthcare related subject. This may include, but is not limited to: a) audiologist, b) clinical neurophysiologist, c) EEG technologist, d) registered nurse;

-and-

Shall be supervised in the performance of tests by the Medical Director until the Medical Director is satisfied as to their competence to perform testing without direct supervision;

-and-

Personnel should participate in continuing education in the field of vestibular testing;

-and-

Shall maintain active certification in cardiopulmonary resuscitation.

4.0 Vestibular Procedures

4.1 Vestibular procedures may include the following:

4.1.1 Basic ENG

- EOG calibration
- Saccade test
- Spontaneous and gaze evoked nystagmus
- Ocular pursuit testing
- Positional nystagmus
- Bithermal caloric test
- Failure of fixation suppression

4.1.2 Specialized Procedures

- Rotation testing (rotating chair)
- Posturography
- Optokinetic nystagmus (OKN)
- Others

5.0 Requests for Procedures

5.1 Vestibular tests may be performed only on referral from registered medical practitioners.

5.2 Information available to the facility prior to procedures being performed should include the following:

- Laboratory name, address and phone number.
- Patient's name, address, date of birth, and gender.
- Patient's personal health number.
- Name, address, and phone number of referring physician.
- Medical history, including medications.
- An appropriate neurological and otological examination.
- Procedure requested.

6.0 Recordings

6.1 All recordings shall have a "data sheet" that includes the following:

- Patient's name and a second identifier (e.g. a personal health number).
- Date and time of recording (beginning and end).
- Name of recording technologist.
- Technologist's comments including clinical observations.

6.2 Appropriate notations such as patient's symptomatology, etc. should be made on the tracing once the "hard copy" is printed.

7.0 Reports

7.1 Content

7.1.1 Reports shall include the following:

- Laboratory name, address, and phone number.
- Patient's name, date of birth, and gender.
- Patient's personal health number - where available.
- Name of referring physician.
- Date and time of procedure.
- Interpretation of data.
- Medical interpretation of the study which includes pertinent history and neurologic examination findings.

7.2 Interpretation

7.2.1 A physician accredited to interpret ENGs is responsible for the interpretation of the study and the report to the referring physician.

7.2.2 All reports containing interpretations shall indicate authorship and whether or not the contents of the report have been verified by the author. (A signature means that the contents have been verified by the signator).

7.2.3[1] Reporting standards, as outlined by the Vestibular Function Committee on Hearing Bioacoustics and Biomechanics[2], should be followed.

[1] *A current copy is kept with the Quality of Care Department, College of Physicians and Surgeons of Alberta.*

8.0 Retention of Records

8.1 The entire interpretive report, abnormal or not, sufficient to support the interpretation made, shall be retained for a minimum of ten years by electronic means or hard copy. In the case of minor patients, they shall be retained for ten years or two years after the age of majority, whichever is greater.

8.2 Records pertaining to the function of the laboratory shall be kept for a minimum of two years.

9.0 Quality Assurance

9.1 A quality assurance program shall be in place to ensure that minimal technical standards of the Canadian Association of Electroneurophysiology Technologists[2] and reporting standards, as outlined by the Vestibular Function Committee on Hearing Bioacoustics and Biomechanics[2] are met.

9.2 The content and format may be flexible, but the program at a minimum should monitor:

9.2.1 Staff Competency
- Continuing education
- Performance reviews

9.2.2 Equipment Performance
- Preventative Maintenance
- Troubleshooting

9.2.3 Laboratory Technique and Procedure
- Patient preparation
- Recording procedure
- Activation

9.2.4 Reporting
- Content
- Storage
- Turnaround time

9.2.5 Safety

9.2.6 Utilization

[2/2] *A current copy is kept with the Quality of Care Department, College of Physicians and Surgeons of Alberta*

10.0 Equipment

10.1 The equipment chosen shall conform to recognized standards of vestibular testing.

10.2 Modifications to equipment shall be documented.

10.3 Population normals should be established prior to using an instrument for patient testing.

11.0 Testing/Recording Procedures

11.1 The testing/recording procedure shall follow the guidelines outlined by the Vestibular Function Committee on Hearing Bioacoustics and Biomechanics[2].

[2] *A current copy is kept with the Quality of Care Department, College of Physicians and Surgeons of Alberta.*

12.0 Safety

12.1 General Safety

12.1.1 The laboratory shall have a Safety Manual (Refer to Section 13.0 Manuals), which is specific to the laboratory, that the staff shall follow. The manual shall be readily available to all personnel and there should be evidence that they are aware of its content.

12.1.2 Policies and procedures shall be developed regarding the documentation of all incidents.

NOTE: An incident is an occurrence, which either harmed or could have harmed a patient or a staff member.

12.2 Fire Safety

12.2.1 This shall be specific for the laboratory and be in compliance with institutional and local fire department regulations.

12.3 Electrical Safety

12.3.1 All equipment shall be checked for grounding and checked for current leakage at least annually.

12.4 Infection Prevention and Control

These standards have been adapted from Health Canada – Infection Control Guidelines – Hand Washing, Cleaning, Disinfection and Sterilization in Health Care and Health Canada – Infection Control Guidelines – Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care.

Routine infection control practices should be incorporated into everyday patient/resident/client care. Institutional policy should provide for education of every care provider in the principles of routine precautions, provision of adequate equipment to implement them, and a means by which compliance with practice can be monitored and audited.

To minimize the risk of transmission of infection, patients/residents/clients (referred to henceforth as "patients") should be assessed for infection or potential infections upon admission. Each facility should endeavor to have some assessment procedure in place; the results should be communicated to other personnel providing care and should be documented in the patient record.

In situations requiring additional precautions, these precautions must be instituted as soon as indicated by triggering mechanisms such as diagnosis, symptoms of infection, laboratory information, or assessment of risk factors.

The institution/facility is responsible for ensuring that appropriate precautions are taken for specific patients.

All personnel (physicians, nurses, technologists/technicians, students, volunteers and others) are responsible for complying with routine and additional precautions and for tactfully calling observed infractions to the attention of all offenders. There are no hierarchical exceptions to precautions, and everyone has a responsibility to monitor his or her own practice as well as the practice of other care providers. There are no exceptions, and all should teach by example.

12.4.1 Occupational Health/Immunization

The *Occupational Health and Safety Act, Regulation and Code* will also apply. Copies of the OHS Act, Regulation and Code, and *"A Physician's Guide to Occupational Health and Safety Responsibilities"* are available on-line at www.worksafely.org.

1. All personnel, including physicians should have their immunization status reviewed and documented at the time they commence employment at the facility and periodically thereafter.

2. Personnel that are unable to provide acceptable evidence of adequate immunity against hepatitis B, influenza, measles, mumps, rubella, and varicella; should be advised to speak to their physician about immunization.

3. Employers should consider measles, mumps, rubella, hepatitis B and varicella immunity as a condition of employment.

4. Tuberculin skin testing is recommended for all personnel at the beginning of their employment.

5. All personnel shall understand and adhere to *"Routine Practices"* which incorporate universal blood and body fluid precautions such as described in the *"Health Canada Infection Control Guideline: Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care.* (This guideline is available on-line at *http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99pdf/cdr25s4e.pdf).*

6. There shall be a policy and procedure for the management of significant exposures (e.g. needle-stick injuries).

7. Consultation with a specialist in infectious disease shall be obtained prior to workers with blood-borne pathogens starting work in the facility. *"Health care workers who perform exposure-prone procedures have an ethical obligation to know their serologic status for hepatitis B virus (HBV), human immunodeficiency virus (HIV) or hepatitis C virus (HCV) and to follow the recommendations in 'Proceedings of the Consensus Conference on Infected Health Care Workers: Risk for Transmission of Bloodborne Pathogens,'* (This document is available on-line at *http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/98vol24/24s4/24s4b_e.html).*

12.4.2 General Infection Prevention Measures

1. Adequate hand washing sinks shall be appropriately located throughout the facility. Waterless, alcohol based antiseptic hand agents are an acceptable alternative to soap and water, if there is no visible soiling.

2. Hands shall be washed between patients, after removal of gloves, when visibly soiled and after contact with any contaminated objects.

3. Hand washing with an antiseptic agent shall be used:
   a. before performing invasive procedures;
   b. before contact with immunocompromised patients;
   c. before contact with patients with extensive skin damage.

4. There shall be no re-use of critical or semi-critical medical equipment labeled as single-use by the manufacturer.

5. Masks, eye protection and face shields shall be worn for protection of mucous membranes of the eyes, nose and mouth during procedures likely to generate splashes or sprays of blood, body fluids, secretions or excretions.

6. Clean non-sterile gloves shall be worn:
   a. for contact with blood, body fluids, secretions and excretions, mucous membranes, draining wounds or non-intact skin (open skin lesions or exudative rash);
   b. when handling items visibly soiled with blood, body fluids, secretions or excretions;
   c. when the healthcare worker has open lesions on the hands.

7. Gloves are to be changed between care activities and procedures with the same patient after contact with materials that may contain high concentrations of microorganisms.

8. Gloves are to be removed immediately after completion of care or procedure, at point of use and before touching clean environment surfaces.

9. There should be a designated person responsible for the maintenance and enforcement of infection control and occupational health standards in the facility.

12.4.3 Additional Precautions

1. Airborne Transmission Precautions

   a. Patients with known or suspected infectious tuberculosis, measles, varicella or disseminated zoster should be placed directly in a single examination room and the door shall remain closed.
   b. Those patients shall wear a surgical/procedure mask during transport and movement through the facility.
   d. High efficiency dust/mist masks shall be worn by all healthcare workers who enter the examination room of a patient with infectious tuberculosis.
   e. High efficiency dust/mist masks shall be worn by non-immune healthcare workers who absolutely must enter the examination room of a patient with varicella, disseminated zoster or measles.

2. Droplet Transmission Precautions

   a. Patients with known or suspected meningococcal infection,, rubella, mumps, pertussis, diphtheria, or hemorrhagic fevers should be placed in a single examination room. If this is not possible the patient shall maintain a one meter spatial separation between other patients.
   b. Surgical/procedure masks should be worn by all healthcare workers that must come within one meter of the patient.
   c. The patient shall wear a surgical/procedure mask during transport and movement through the facility.

3. Contact Transmission Precautions

   a. Patients with know or suspected diarrhea, extensive skin or wound infection not contained by dressings, hemorrhagic fevers, meningitis, hepatitis, herpes simplex-disseminated, scabies (extensive or Norwegian/crusted), varicella, disseminated or extensive uncovered zoster and Antibiotic Resistant Organisms (ARO) should be placed in a single examination room. If this is not possible, a spatial separation of one meter shall be maintained between patients.
   b. Gloves should be worn when entering the patient's room or designated examination space.
   c. Gloves shall be removed before leaving the patient's room or designated examination space.
   d. Hands shall be washed immediately, first with soap and water if visibly soiled, then an antiseptic agent.

e. Equipment and surfaces in direct contact with the patient or infective materials shall be cleaned before the room is used by another patient.

12.4.4 General Environmental and Equipment Cleaning

1. A barrier (sheet or paper) should be placed on the examination table. The barrier shall be changed between patients.

2. If no barrier is used, the examination table shall be cleaned between patients.

3. The examination table shall be cleaned between patients if visibly soiled.

4. Items touching mucous membranes or non-intact skin shall be appropriately disinfected between patients.

5. Chairs, cabinets and charts are not usually an infection risk, but should be cleaned on a regular basis.

6. Walls, blinds and curtains should be cleaned regularly and when soiled.

7. Floors should be cleaned regularly, with damp mopping preferred.

8. Carpets/upholstery should be vacuumed regularly and shampooed as necessary.

9. Toys shall be regularly cleaned, disinfected with a low level disinfectant, thoroughly rinsed and dried.

12.4.5 Equipment Cleaning, Disinfecting and Sterilization

1. There shall be written policies and procedures for cleaning and sterilizing specialized equipment as described in *Health Canada – Infection Control Guidelines – Hand Washing, Cleaning, Disinfection and Sterilization in Health Care. This guideline is available on-line at www.phac-aspc.gc.ca/dpg_e.html#infection.*

2. Personnel involved in the cleaning, disinfecting and sterilization of equipment shall be properly trained.

3. There shall be a designated area for soiled supplies. This area shall be physically separated from patient care areas and from areas housing clean and sterile supplies.

4. Personnel working in the soiled area shall have proper protective apparel for their personal protection.

5. Clean and sterile supplies shall be stored in an area protected from dust and moisture, with access limited to authorized personnel.

6. Sterile supplies shall be clearly marked.

7 The **Infection Control Guidelines for Neurophysiology Facilities** of the College of Physicians and Surgeons shall also apply[3]. (Appendix A).

12.5 Adverse Reactions

[3] *A current copy is kept with the Quality of Care Department, College of Physicians and Surgeons of Alberta.*

12.5.1 There shall be policies and procedures in place to deal with adverse reactions such as acute anxiety, nausea and vomiting, and vasovagal reactions, as well as to activate the Emergency Medical System if necessary.

12.6 Death or Significant Complications

12.6.1 Deaths or significant complications arising from testing in the facility shall be reported to the Registrar within two (2) working days.

13.0 Manuals

13.1 Laboratories shall have current and comprehensive manuals in place.

13.2 All procedures shall initially be approved and signed by the laboratory director.

13.3 Subsequent to initial approval, all procedures shall be reviewed annually and signed by the director or a designate. Any changes in the interim shall be approved and initialed by the director.

13.4 The following manuals shall be available in the laboratory:

13.4.1 Equipment Manual

1. This manual should include, as a minimum, for each piece of equipment:

- List of contact personnel and phone numbers
- Manufacturer operating and trouble shooting instructions
- Preventative maintenance schedule

2. This manual should include records for:

- Preventative maintenance
- Repairs

13.4.2 Policy Manual

1. This manual should include, as a minimum, the following sections:

- Staff/office policies
- Procedure policies

13.4.3 Procedure Manual

1. This manual should include, as a minimum, the following for each procedure performed:

- Name of procedure
- Equipment used
- Patient preparation, i.e.:
  - reception/documentation
  - examination of ear drums and canals and removal of cerumen if required
  - requirement for an audiologic assessment beforehand
  - check for eye disease or disorder which would compromise quality of recording
  - electrode placement, application and removal
- Recording Procedure
  - Documentation throughout recording
  - Calibration
- Limitations
- Special Precautions
- Normal Values
- Critical Abnormalities
- Clinical Significance
- References

2. This manual should include records for:

- Calibration

13.4.4 Safety Manual

1. This manual should include, as a minimum, the following sections:

- General Safety
- Fire Safety
- Electrical Safety
- Infection Control (Appendix A)
- Medical Emergencies
- Waste Disposal

2. This manual should include records for:
- Incidents
- Fire extinguishers
- Electrical checks

Appendix A - Infection Control Guidelines for Neurophysiology Laboratories

All patients are considered to be potential sources of hepatitis B, hepatitis C, HIV, and other infectious organisms. Personnel having potential contact with sharps or blood are encouraged to be immunized against hepatitis B.

GENERAL RECOMMENDATIONS

1. Hands shall be washed immediately before and after procedures.

2. The use of gloves is mandatory when handling blood or sharps contaminated with blood in most clinical situations. This is particularly important when the worker's skin barrier is broken.

3. Gowns, goggles and masks should be available for special circumstances such as droplet infection and where aerosolization of blood is possible.

4. Prior to disinfection and sterilization, all instruments shall first be thoroughly cleaned to remove all organic matter (blood & tissue) and other residue.

   Note: Organic matter shields organisms from destruction and may inactivate some disinfectants.

Technique

- ***The cleaning process shall be carried out using appropriate protective apparel - gloves, masks, and gowns or aprons, if splashing is anticipated.***
- ***The articles shall be washed in hot sudsy water with bottle- or special-brushes or scrubbers, keeping below the water line when possible, to reduce aerosolization.***
- Care shall be taken to remove all organic matter as appropriate to the article, (e.g. ports and channels).

Definitions

• High-level disinfectants:	2% glutaraldehyde, 6% hydrogen peroxide, peracetic acid
• Intermediate to high-level disinfectants:	Chlorine compounds
• Intermediate-level disinfectants:	Alcohols, Iodophors
• Steam autoclaving:	Adequate steam autoclaving requires 20 minutes at 15 PSI and 121°C. To ensure proper sterilization, controls shall be included with each run. A quality control program should be developed in consultation with an expert in Infection Control and performance records kept for 2 years.

ELECTROENCEPHALOGRAPHY AND EVOKED POTENTIAL LABORATORY

1. Cup electrodes, electrocaps:
   - Clean as described above, and
   - Soak for 20 minutes in a high-level disinfectant, and
   - Rinse in hot water and allow to dry.

2. Headbox, paste tube, tape measure, marking pencil, stimulating electrode, ground bands:
   - Wipe with an intermediate or high-level disinfectant.

   Note: If the patient has a head wound: discard the tape and pencil.

3. Sterile sandpaper for site preparation:
   - Discard after use on each patient.

4. Blunt needles used for application of paste:
   - Clean as described above, and
   - Sterilize by steam autoclaving, and
   - Store in sterile wrapping.

   Note: If the patient has known or suspected Jakob-Creutzfeld Disease or other Prion disease, discard the needles in a puncture-proof container sent for incineration. Arrangements for incineration can be made through hospitals or biohazardous-waste disposal contractors.

ELECTROMYOGRAPHY LABORATORY

1. Needle electrodes:
   - Clean as described above, and
   - Soak in high-level disinfectant for 12-14 hours, rinse in sterile water, and allow to dry, or steam autoclave as described above, or gas sterilize, and
   - Store in sterile wrapping.

   Note: Soaking needles in glutaraldehyde solution does not damage Teflon sleeves but repeated soaking or sterilization may raise impedance at needle tips, making disposal necessary. Vortexing or strong agitation is recommended during chemical disinfection of needles with sleeves or channels.

   Note: If the patient has known or suspected Jakob-Creutzfeld Disease or other Prion disease, discard the needles in a puncture-proof container sent for incineration.

NEEDLESTICK INCIDENTS

1. There must be a policy in place that references a Regionally approved protocol for management of needlestick injuries.

ELECTRO-CAP CLEANING AND PREVENTATIVE MAINTENANCE

The following information is taken from an Electro-cap manufacturer's instruction manual.

Electro-caps must be cleaned frequently for sanitary reasons. In addition, if all the gel is not washed from a cap, the material will lose its elasticity; the life of the cap will be dramatically shortened. ***USE ONLY IVORY® OR PALMOLIVE® LIQUID DETERGENT FOR WASHING ELECTRO-CAPS!*** *Other soaps and detergents, especially those common in hospitals, leave a residual film on the electrode metal. After a few washings the soap film builds up and coats the electrode. Excessively high electrode impedances and overwhelming electrode artifacts result.*

The dye from the cap material may bleed during the first few washings. Do not wash different colored caps together. Before washing a cap, always unsnap and remove the cap straps.

The cap straps are washed separately because the strap material is thick; drying may require several hours. It is advisable, however, to wash the straps thoroughly with a brush and soapy water once a week.

TO WASH CAPS

1. ***Unsnap and remove the straps; place to one side.***
2. ***Fill sink with LUKEWARM tap water.***
3. ***Add a small amount of Ivory® liquid detergent to the water.***
4. ***Submerge ONLY the cap. DO NOT allow the blue connector to get wet. Let the cap sit in the water a few minutes.***
5. ***Clean the gel from the electrode mounts with an "orange stick" or cotton swab. Another method is to alternate each mount, in turn, under rapidly running water. The water pressure will force most of the softened gel from the mounts.***
6. ***Rinse the cap thoroughly.***
7. ***Blot the cap gently in a terry cloth towel or hang it up to dry.***
   IMPORTANT
   When drying the cap, HANG IT SO THE CAP IS LOWER THAN THE BLUE CONNECTOR. If the connector is lower than the cap, water will run down the multicolored cable into the blue connector. The water will quickly corrode the terminals; artifacts will result.
8. ***When the cap is dry, replace the straps.***
9. ***Once a month, scrape the metal electrode disks thoroughly with an orange stick or the wooden end of a cotton swab. Oxide gradually builds up on the electrode disks and should be periodically scraped away.***

In most geographic areas, an Electro-cap will air dry in about one hour. However, high humidity will extend the drying time. The straps will normally dry overnight if they are washed at the end of the work day.

If there is not enough time for the cap to air dry between patients, blot the cap with a terry cloth towel. The cap may feel damp to the touch, but will be sufficiently dry for immediate application.

A small hair dryer may also be used to quickly dry a cap. However, use only a "WARM" setting. The "HIGH" or "HOT" setting on some hair dryers is too hot and will weaken the elastic material; the cap life will be severely shortened.