EAR CARE GUIDELINES

TP022

MARCH 2010
1. Executive Summary Sheet and Version Control

<table>
<thead>
<tr>
<th>Policy Reference:</th>
<th>TP 022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Title:</td>
<td>Ear Care Guidelines</td>
</tr>
<tr>
<td>Review Date:</td>
<td>Month 2010</td>
</tr>
<tr>
<td>Approval:</td>
<td>Insert approving committee/board</td>
</tr>
<tr>
<td>Author(s)/Further Information:</td>
<td>Liz Matthew and Beth Maryon Interim Director of Patient Care &amp; Profession (Designate) and Practice Development Manager</td>
</tr>
<tr>
<td>Summary:</td>
<td>The purpose of this guidance is to provide the patient with effective and safer ear care. The guidelines are for trained practitioners who have undergone a recognized ear care training programme and have developed the necessary competencies to carry out the procedures.</td>
</tr>
<tr>
<td>Implementation:</td>
<td>This guideline will be disseminated to staff via the Trust’s internet in read only files.</td>
</tr>
<tr>
<td>Impact:</td>
<td>Include statutory obligations, regulatory or monitoring requirements etc.</td>
</tr>
</tbody>
</table>

**Version Control Summary**

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Status</th>
<th>Comment Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONTENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Executive Summary Sheet and Version Control</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Policy Statement and Trust Guiding Principles</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Introduction</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Cerum Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Guidance for ear examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Guidance on equipment use for wax removal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Guidance for irrigation using the electronic irrigator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Guidance for aural toilet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Guidance for the removal of excess wax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Guidance for micro suction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>References</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appendix 1 Cleaning guidelines for propulse irrigator</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Policy Statement and Trust Guiding Principles

2.1 Outer North East London Community Services procedural documents are produced in conjunction with the following vision, which underpins the development of the organisation.

- People are at the centre of what we are doing
- We can demonstrate a truly corporate spirit and collective responsibility
- We are clinically driven with managerial support
- We take responsibility for identifying and responding to need
- We seek to be fair and equal to all
- We seek to achieve our goals in partnership with others

3. Introduction

ONEL Community Services has adopted the Primary Ear Care Centre Guidance for Ear Care to support staff in clinical practice.

In order to reduce litigation in ear irrigation and provide the patient with effective and safer ear care this document has been produced by the ‘Action On ENT’ Steering Board (2002) and revised by the Primary Ear Care Trainers (2007) and again in 2008. It provides the practitioner with guidance in otoscopy, ear irrigation, aural toilet and manual wax removal. The Document has been endorsed by the Royal College of General Practitioners, The Royal College of Nursing, The Primary Ear Care Centre and the Medical Devices Agency.

A referral from the General Practitioner or Doctor is required for ear irrigation. This should include any current or past medical history that may affect the procedure.

4. Training

These guidelines are for trained practitioners who have undergone a recognized ear care training programme and have developed the necessary competencies to carry out the procedures. Nurses must provide a high standard of practice and care at all times. (NMC 2008).

Ear care training dates are available from the Workforce Development Department.

It is good practice for any health professional that is learning to carry out ear care to be supervised and supported initially by a person who is already experienced...
in ear care and who has also undertaken the recognized ear care training programme. This would be until the practitioner has gained the requisite knowledge, skills and confidence and is competent to perform ear care.

5. Cerum Management

Wax or cerumen is a normal secretion of the ceruminous glands in the outer meatus. It is slightly acidic, giving bactericidal qualities in both its wet, sticky form (as secreted by Caucasians and Afro-Caribbeans) or dry, flaky form (as secreted by Orientals). In addition to epithelial migration, jaw movement assists the movement of wax to the entrance of the External Auditory Meatus (EAM) where it emerges on to the skin. A small amount of wax is normally found in the EAM and its absence may be a sign that dry skin conditions, infection or excessive cleaning have interfered with the normal production of wax. It is only when there is an accumulation of wax that removal may be necessary. A build-up of wax is more likely to occur in older adults and patients with learning difficulties, hearing aid users, people who insert implements into the ear or have a narrow EAM. A build-up of wax may also occur as a result of anxiety, stress and dietary or hereditary factors. Excessive wax should be removed before it becomes impacted, which can give rise to tinnitus, hearing loss, vertigo, pain and discharge. If wax is removed due to the presenting complaint of hearing loss, ascertain whether good hearing is restored after treatment or if the patient would benefit from a formal assessment by the ENT surgeon or Audiologist. Providing they meet certain criteria stated in local referral guidelines, older adults with a bilateral hearing loss can be referred directly to the Audiology Department

6. Guidance for ear examination

Adult patients

1. Before careful physical examination of the ear, listen to the patient, elicit symptoms and take a careful history. Explain each step of any procedure or examination and ensure that the patient understands and gives consent. Ensure that both you and the patient are seated comfortably, at the same level, and that privacy is maintained.

2. Examine the pinna, outer meatus and adjacent scalp. Check for previous surgery incision scars, infection, discharge, swelling and signs of skin lesions or defects. Identify the largest suitable speculum that will fit comfortably into the ear and place it on the otoscope.

3. Palpate the tragus in order to identify if the patient has any pain. Proceed with caution.

4. Gently pull the pinna upwards and outwards to straighten the EAM.
(directly down and back in children). If there is localized infection or inflammation this procedure may be painful and examination may be difficult

5. Hold the otoscope like a pen and rest your small finger on the patient’s head as a trigger for any unexpected head movement. Do not move the patient's head when the otoscope is in the ear. Use the light to observe the direction of the EAM and the tympanic membrane. There is improved visualisation of the tympanic membrane by using the left hand for the left ear and the right hand for the right ear but clinical judgement must be used to assess your own ability. Insert the speculum gently into the meatus to pass through the hairs at the entrance to the canal

6. Looking through the otoscope, check the EAM and tympanic membrane. Adjust your head and the otoscope to view all of the tympanic membrane. The ear cannot be judged to be normal until all the areas of the membrane are viewed: the light reflex, handle of malleus, pars flaccida, pars tensa and anterior recess. If the ability to view all of the tympanic membrane is hampered by the presence of wax, then wax removal will have to be carried out

7. If the patient has had canal wall mastoid surgery, methodically inspect all parts of the cavity, tympanic membrane, or remaining tympanic membrane, by adjusting your head and the otoscope. The mastoid cavity cannot be judged to be completely free of ear disease until the entire cavity and tympanic membrane, or remaining tympanic membrane, has been seen

8. The normal appearance of the membrane or mastoid cavity varies and can only be learned by practice. Practice will lead to recognition of abnormalities

9. Carefully check the condition of the skin in the EAM as you withdraw the otoscope. If there is doubt about the patient’s hearing, an audiological assessment should be made. Providing they meet certain criteria stated in local referral guidelines, older adults with a bilateral hearing loss can be referred directly to the Audiology Department. Patients with a unilateral loss should be referred to ENT

10. Document what was seen in both ears, the procedure carried out, the condition of the tympanic membrane and EAM and treatment given. Findings should be documented, with nurses following the NMC guidelines on record keeping and accountability. If any abnormality is found a referral should be made to the ENT Outpatient Department following local policy
Children

Irrigation can be carried out on children as long as the child has no contraindications and is happy to co-operate with the procedure. The practitioner must ensure irrigation is appropriate and necessary. It may be advisable to instil olive oil for a longer period of time in children to avoid the need for irrigation. When carrying out otoscopy, gently pull the pinna down and backwards to straighten the EAM.

7. Guidance on equipment used for wax removal

The metal syringe is not used for use in the EAM. The syringe design is inherently dangerous. Combined with the danger of the syringe itself and the pressure of water it creates within the EAM, there is the difficulty of disinfecting the syringe after each use. The Medical Devices Agency (MDA) also has reservations about the use of the metal syringe for wax removal. There are issues around the poor manufacture of some syringes, allowing them to break and cause injury during use and the pressure of water that can be exerted manually on the tympanic membrane.

Electronic irrigators such as the "Propulse" and the "Otoscillo" allow irrigation of the EAM rather than wax removal under pressure. The MDA issued Safety Notice SN 9807 in February 1998 which advised users that the original Propulse electronic irrigator required an isolation transformer for electrical safety. Subsequently, the manufacturer designed and marketed the Propulse II to replace the original Propulse. Propulse III is now available which is both mains and battery operated.

Please note: This guidance document does not recommend the use of manual syringes or the Propulse 1, even with an isolation transformer, but recommends that practitioners should use the Propulse II or III irrigator and refer to the procedure as ear irrigation.

The Propulse II and III irrigator have a pressure-variable control of minimum/maximum, allowing the flow of water to be easily controlled by commencing irrigation on the minimum setting. For patient safety, Propulse has limited the maximum pressure available; this limit is stated in the user instructions. The Propulse III irrigator has specific disinfecting guidelines issued with approval from infection control committees.

The only other equivalent device available on the British market is the German ear irrigator called the Mulimed-Otoscillo irrigating jet machine. The numbers one to six denote the pressure control but, as the manufacturer does not state a maximum limit, it is difficult to assess the maximum pressure developed by the
irrigator. There is no documentation about the safe pressure exerted by the machine. A further failing is that the design of the irrigator tip does not offer the preferred direction against the posterior EAM wall. The manufacturers of the Mullimed-Otoscillo do not recommend a specific solution to disinfect the irrigating machine. This has the danger of users using inappropriate solutions and the machine harbouring infection.

The Welch Allyn Ear Wash System is an American irrigator that attaches to a combined hot and cold water tap. There are problems in the United Kingdom with attachment to a number of taps found within the community and hospital setting. It is of comparable price to both the electronic irrigators but there may be the added cost of having the tap changed to a suitable model. The system cannot be used in rooms where there is no access to water, as in the case of patients confined to a sitting room, within a nursing home or community setting. It does limit the maximum amount of water pressure exerted in the ear and controls variation in the flow of water. If there is an increase/decrease in the temperature of water the machine will stop the flow of water until it is altered. This machine has a suction system, which returns the discharge and debris away from the ear and can be used without the flow of water to remove the remaining moisture from the EAM.

8. Guidance for ear irrigation using the electronic irrigator

This procedure is only to be carried out by a trained doctor, nurse or audiologist. It may also be carried out by a Healthcare worker who has received recognised training in ear care and the use of ear care equipment. This training is available from Primary Ear Care Centre trainers.

PRINCIPLES – Irrigation of the ear is carried out to:

- Facilitate the removal of cerumen and foreign bodies, which are not hygroscopic, from the external auditory meatus. Hygroscopic matter (such as peas and lentils) will absorb the water and expand, making removal more difficult.
- Remove discharge, keratin or debris from the external auditory meatus.

An individual assessment should be made of every patient to ensure that it is appropriate for ear irrigation to be carried out.

Reasons for using this procedure

In order to:

- Correctly treat otitis externa where the meatus is obscured by debris.
- Improve conduction of sound to the tympanic membrane when it is blocked by...
wax
- Remove debris to allow examination of the external auditory meatus and the tympanic membrane
- Remove cerumen in order to facilitate hearing aid mould impressions

**Irrigation should NOT be carried out when:**

- the patient has previously experienced complications following this procedure in the past
- there is any bleeding noted on examination or if bleeding is noted during the procedure.
- there is a history of a middle ear infection in the last six weeks
- the patient has undergone ANY form of ear surgery (apart from grommets that have extruded at least 18 months previously and the patient has been discharged from the ENT Department)
- the patient has a perforation or there is a history of a mucous discharge in the last year
- the patient has a cleft palate (repaired or not)
- there is evidence of acute otitis externa with pain and tenderness of the pinna

**Precautions:**
- Tinnitus
- Healed Perforation
- Dizziness

**Equipment**
- Otoscope
- Head mirror and light or headlight and spare batteries
- Electronic irrigator
- Disposable irrigator tip
- Tap water at 37°C
- Noots trough/receiver
- Disposable probe and cotton wool
- Tissues and receivers for dirty swabs and instruments
- Disposable waterproof cape and paper towels
- Disposable apron and gloves

**This procedure should be carried out with both participants seated and under direct vision, using a headlight or head mirror and light source, throughout the procedure.**
PROCEDURE

1. Consent should be obtained and documented prior to proceeding

2. Examine both ears by first inspecting the pinna and adjacent scalp using direct light. Check for previous surgery incision scars or skin defects, then inspect the EAM with the otoscope

3. Check whether the patient has had his/her ears irrigated previously, or if there are any contra-indications why irrigation should not be performed

4. Explain the procedure to the patient and ask the patient to sit in an examination chair (a child could sit on an adult's knee with the child's head held steady)

5. Check that the headlight/light source is in place and is working correctly

6. Place the protective cape and paper towel on the patient’s shoulder and under the ear to be irrigated. Ask the patient to hold the receiver under the same ear

7. Check that the temperature of the water is approximately 37°C and fill the reservoir of the irrigator. Set the pressure at minimum

8. Connect a new jet tip applicator to the tubing of the machine with a firm 'push/twist' action. Push until a "click" is felt

9. Direct the irrigator tip into the Noots receiver and switch on the machine for 10-20 seconds in order to circulate the water through the system and eliminate any trapped air or cold water. This offers the opportunity for the patient to become accustomed to the noise of the machine. The initial flow of water is discarded, thus removing any static water remaining in the tube. Check the temperature of the water again

10. Twist the jet tip so that the water can be aimed along the posterior wall of the EAM (towards the back of the patient’s head)

11. Gently pull the pinna upwards and outwards to straighten the EAM (directly backwards in children)

12. Warn the patient that you are about to start irrigating and that the procedure will be stopped if he/she feels dizzy experiences any pain. Ensure that the light is directed down the EAM. Place the tip of the nozzle into the EAM entrance and, using the foot control, direct a stream of water along the roof of the EAM and towards the posterior wall (directed towards
the back of the patient’s head). If you consider the entrance to the EAM as a clock face, you would direct the water at 11 o’clock in the right ear and 1 o’clock in the left ear. Increase the pressure control gradually if there is difficulty removing the wax. It is advisable that a maximum of two reservoirs of water is used in any one irrigation procedure.

13. If you have not managed to remove the wax within five minutes of irrigation, it may be worthwhile moving on to the other ear, as the introduction of water via the irrigating procedure will soften the wax and you can retry irrigation after about 15 minutes.

14. Periodically inspect the EAM with the otoscope and inspect the solution running into the receiver.

15. After removal of wax or debris, dry mop excess water from the meatus under direct vision using the Jobson Horne probe and best quality cotton wool. Stagnation of water and any abrasion of skin during the procedure predispose to infection. Removing the water with the cotton wool tipped probe reduces the risk of infection.

16. Examine the ear, both meatus and tympanic membrane, and treat as required following specific guidelines, or refer to a doctor if necessary.

17. Give advice regarding ear care and any relevant information.

18. Document what was observed in both ears, the procedure carried out, the condition of the tympanic membrane and external auditory meatus and treatment given. Findings should be documented; nurses should follow the NMC guidelines on record keeping and accountability. If any abnormality is found a referral should be made to the ENT Outpatient Department following local policy.

**NB. IRRIGATION SHOULD NEVER CAUSE PAIN. IF THE PATIENT COMPLAINS OF PAIN - STOP IMMEDIATELY**

Always use a sterilised or single use speculum and jobson horne probe and a single use jet tip applicator for each patient.

*It is recommended that you follow the manufacturer’s guidelines and local policy for cleaning, disinfecting and calibrating the irrigator and its components.*
9. Guidance for Aural Toilet

**Principles** - aural toilet is used to clear the aural meatus of debris, discharge, soft wax or excess fluid following irrigation

This procedure is only to be carried out by a trained doctor, nurse, audiologist or healthcare worker with recognised ear care training

An individual holistic assessment should be made of each patient to ensure that it is appropriate for aural toilet to be carried out

1. Examine the ear using an otoscope

2. Under direct vision, dry mop - using an ear mop or disposable probe with a small piece of cotton wool applied to the serrated edge. Clean the EAM with a gentle rotary action. Do not touch the tympanic membrane

3. Replace the cotton wool/probe directly it becomes soiled. Pay particular attention to the anterior-inferior recess, which can harbour debris

4. Intermittently re-examine the meatus, using the otoscope, during cleaning to check for any debris/discharge/crusts which remain in the meatus at awkward angles

5. Patients who have mastoid cavities should be followed up in the ENT department unless the nurse, doctor or audiologist has been specifically trained in this area. The frequency of cleaning required by the cavity will depend on the individual patient. If the cavity gets repeatedly infected the patient should be considered for revision surgery

6. If an infection is present treatment should follow patient group directives and referral guidelines or as dictated by the result of a swab culture and sensitivities following the failure of first line management. If the patient has repeated problems with the ear, an ENT Surgeon should review the patient

7. Give advice regarding ear care and any relevant information

8. Document what was observed in both ears, the procedure carried out, the condition of the tympanic membrane and external auditory meatus and treatment given. Findings should be documented; nurses should follow the NMC guidelines on record keeping and accountability. If any abnormality is found a referral should be made to the ENT Outpatient Department following local policy
10. **Guidance for removal of excessive wax.**

This procedure is only to be carried out by a trained doctor, nurse or audiologist

These notes are to be used as a guide: when the practitioner has developed their skills they can use their own clinical judgement on the most appropriate method and instrumentation to remove wax

1. Examine the ear to discern the type of wax to be removed. Ask yourself if it is healthy wax or may it be bacterial debris of wax-like appearance? Is it dry crumbly wax related to Seborrhoeic Dermatitis? Is it soft, beige wax, in both ears, that can be associated with high cholesterol?

2. Hard, crusty wax can often be gently manoeuvred out of the meatus with a ring probe, using a head mirror and external light source or headlight for illumination. Experienced practitioners may prefer to use a wax hook or forceps. If this treatment becomes painful, do not continue as the meatal lining quickly becomes traumatised, risking infection. Instruct the patient according to your clinical judgement. A possible treatment could be to use olive oil or sodium bicarbonate inserted correctly for up to 1 week. The patient can then return for irrigation or further instrumentation. Excessive soft wax or crumbly wax and debris can be wiped out with cotton wool wound onto a disposable probe (using aural toilet guidelines) or irrigated

3. Cerumenolytic ear drops can be used to break up hard wax but patients may develop meatal irritation from the astringent qualities of these agents. This is particularly the case with older adults or people who suffer with dermatology conditions or recurrent otitis externa

4. If a perforation is suspected behind the wax, advise the patient to use olive oil in very small amounts, but to stop using it if they experience any pain

5. Give advice regarding ear care and any relevant information

6. Document what was observed in both ears, the procedure carried out, the condition of the tympanic membrane and external auditory meatus and treatment given. Findings should be documented; nurses should follow the NMC guidelines on record keeping and accountability. If any abnormality is found a referral should be made to the ENT Outpatient Department following local policy
11. References

Harkin H. The Primary Ear Care Centre on behalf of the Action on ENT Steering board and revised (January 2007 and February 2008) by the Primary Ear Care Centre nurses and licensed trainers

http://earcarecentre.com/

Nursing and Midwifery Council. The Code Standards of conduct, performance and ethics for nurses and midwives (May 2008)

Appendix 1

CLEANING GUIDELINES FOR PROPULSE IRRIGATOR

The Propulse Electronic Irrigator must be disinfected using a solution of Sodium Dichloroisocyanurate 0.1% (NaDCC)

Chlor-Clean Detergent Sanitiser Tablets (NaDCC)

Material Safety Data Sheet

1. Hazards identification
HARMFUL if swallowed. Irritating to eyes and respiratory system. Contact with acid liberates toxic gas. On contact with moisture, NaDCC readily decomposes to Chlorine, Hypochlorous Acid & Cyanuric Acid.

2. First aid measures
   Eye Contact: Immediately flush with plenty of clean water for at least 15 minutes. If irritation persists, seek medical attention.
   Skin Contact: Promptly wash thoroughly with water for at least 15 minutes whilst removing contaminated clothing. Wash any contaminated clothing well, before re-use.
   Ingestion: Immediately rinse mouth, then drink plenty of water or milk. **Do not** induce vomiting. Seek medical attention.
   Inhalation: Move to fresh air. If irritation persists, seek medical attention.
3. Fire-fighting measures

Special Fire or Explosion Hazards: Product is not flammable itself, but contact with combustible material may cause fire. Product combustible if dehydrated by drying. Decomposes above 250°C with release of chlorine & other toxic fumes. A thermal decomposition can be extinguished by flooding with copious amounts of water or by isolating the decomposing material in open air and allowing it to be consumed. Use self-contained breathing apparatus and goggles. Do not approach from leeward.

Suitable Extinguishing Media: Pressurised water or dry powder. Do not use dry fire extinguishers containing ammonium compounds.

Other Recommendations: Remove the product if it is safe to do so, before using water for fire fighting, in order to minimise hazards from release of toxic fumes. It will often be safer to let the fire burn itself out. Where it is decided to fight the fire with water, large quantities must be used. If insufficient water is used there may be an explosion hazard associated with hot damp material. NaDCC may generate nitrogen trichloride when it is left under damp conditions.

4. Accidental release measures

Any spillage should be cleaned up as soon as possible to prevent contamination with foreign materials with which it may react - see section 8 (Stability and Reactivity) below. Handle spillage carefully, do not return spilled material to original container.

If tablets are dry and uncontaminated, collect into heavy-duty plastic bag; where possible and suitable, use material as originally intended. Wash away any residue with copious amounts of water.

If tablets are contaminated they should be transferred to waste ground, spread thinly and covered with a thin layer of earth; a smell of chlorine will be noted until the material has degraded. Keep people, vehicles and animals away from the disposal area.

If tablets become damp they will effervesce, evolving carbon dioxide and may decompose to give off chlorine fumes; transfer spillage to unsealed plastic bags, avoiding any large masses of material within the bags, and remove to waste ground for immediate treatment/disposal as above; avoid breathing fumes. Wash away residue with copious amounts of water.

If spillage of tablets is large (more than 100Kg), place into bins lined with polythene bags and eliminate in accordance with locally valid disposal regulations.

5. Handling and storage

Recommended Storage Conditions:
Store away from all incompatibles and combustibles - see section 8 (Stability and Reactivity) below. Store in a cool, dry, well-ventilated place. Moisture sensitive. Avoid high humidity levels. Do not allow water to get into container.
Keep away from fire, heat, flame & direct sunlight. Keep container tightly closed. Keep out of reach of children. Never store damp or contaminated material.

**Recommended Handling Precautions:**
Avoid contact with eyes, skin & clothing.
When handling large quantities of tablets, wear chemical resistant gloves and safety goggles.
Avoid breathing any dust.
Wash thoroughly after handling.
Use protective equipment recommended in section 6 (*Exposure controls/personal protection*)
Do not eat, drink or smoke when handling this material.

6. **Exposure controls/personal protection**

**Occupational Exposure Limits**

(EH40/2002):

- Long Term Exposure Limit to Chlorine – (8 hours TWA)
  - 0.5ppm 1.5mgm⁻³
- Short Term Exposure Limit to Chlorine – (10 minutes)
  - 1ppm 2.9mgm⁻³
- Long term exposure Limit to amorphous silica – (8 hours TWA) - 6mgm⁻³

**Respiratory Protection:** Where any dust in the breathing zone cannot be controlled with ventilation, wear an officially approved respirator (NIOSH/MSHA or equivalent agency) for protection against airborne dust.

**Ventilation:** Use local exhaust ventilation where appropriate.

**Eye Protection:** If airborne dust concentrations are high, wear appropriate protective goggles.
Wash eyes with clean water where there is potential eye contact.

**Skin Protection:** When handling large bulk quantities wear protective gloves.
Wash immediately if skin is contaminated. Remove and wash contaminated clothing and clean up equipment before re-use.
Wash thoroughly with soap and water after handling.

7. **Physical and chemical properties**

**Appearance:** White flat bevelled tablet
**Oxidising Properties:** Non-

**Odour:** Characteristic Chlorine Odour
**Flash point:** Not flashing

**pH:** As is - not applicable
**Flammability:** Not flammable
pH: In solution - 5.0 - 6.0 approx.  

Autoflammability: Not autoflammable 

Solubility: Freely soluble  

Explosion Properties: Not explosive 

8. Stability and reactivity 

Conditions to Avoid: 
Do not store on or near heat sources or naked flame. Avoid moisture. NaDCC decomposes at temperatures above 240°C liberating toxic gases. 

Materials to Avoid: 
Contact with water liberates chlorine, and with nitrogen compounds may cause explosion. Avoid organic materials, oils, grease, sawdust, reducing agents, nitrogen-containing compounds, calcium hypochlorite, other oxidizers, acids, alkalis, cationic and certain non-ionic surfactants. 

9. Toxicological information 

Route of entry: inhalation, skin contact & ingestion. 

Inhalation of NaDCC is irritating to the nose, mouth, throat and lungs. 

Ingestion of NaDCC can cause irritation and or/burns to the gastrointestinal tract. 

Skin & Eye Contact with NaDCC can cause severe irritation and/or burns, characterized by redness, swelling and scab formation. May cause impairment of vision and corneal damage. 

Toxicological Data: NaDCC 
Acute toxicity 
Oral LD50 (rat) ca. 1825mg/kg 
Eye Irritation (rabbit) Severe irritant 
Rabbit dermal LD50 >20,000mg/kg 

Carcinogenicity: This chemical is not considered to be carcinogenic by any reference source. 

10. Ecological information 

NaDCC is highly toxic to fish. Do not discharge into lakes, ponds, streams or public water unless in accordance with the permit of official regulations. 

11. Disposal considerations 

Disposal should be carried out in accordance with all official regulations. If material is dry, incineration is recommended.
The Primary Ear Care Centre Cleaning Instructions  
for the Propulse Electronic Irrigator

Stage 1: Each day before use, the electronic irrigator must be disinfected 
using a solution of Sodium Dichloroisocyanurate 0.1% (NaDCC).  
Suggest use Chlor-Clean tablets, or similar, according to 
manufacturer's instructions, to get a solution which provides 1000 
parts (NaDCC) per million (0.1%)

Fill the water tank with NaDCC solution

Run the irrigator for a few seconds to allow the solution to fill the 
pump and flexible tubing

Leave to stand for 10 minutes. Empty the water tank, then rinse 
the system through with tap water before use

Stage 2: At the end of the day (or end of ear irrigation session), disinfect the 
irrigator for 10 minutes 
using the NaDCC solution

Rinse the machine by running through with well-run cold tap water 
and dry thoroughly before leaving overnight

Explanation: 
Sodium Hypochlorite 0.1% has only 1 Chlorine molecule and will release ALL 
this Chlorine if in contact with any vegetative matter. Sodium 
Dichloroisocyanurate (NaDCC) 0.1% has 2 Chlorine molecules which are slowly 
released, maintaining at all times 50% of its own weight. This is available in the 
form of Chlor-Clean tablets (Guest Medical) as per research completed by Dr 
David Coates from Q Laboratories Ltd, Preston, in 2001. A covered litre 
container can be used to mix and store the solution for up to 8 hours 
Chlor-Clean is mentioned particularly because it contains a surfactant (i.e. 
detergent) in addition to a disinfectant

Following a microbiological study in 2004 the Propulse manufacturer now 
only recommends the use of disposable single use jet tips.
General

Any NaDCC solution must be discarded at the end of each session/day

Following cleaning, all equipment must be stored dry

Chlor-Clean tablets, jet tips, speculae, Jobson Horne probes, Noots tanks and other equipment may be obtained from The Primary Ear Care Centre

*Updated June 2007*

These Guidelines can be reproduced. The copyright remains with The Primary Ear Care Centre