AUSTRALIAN DENTAL ASSOCIATION INC.

Dr Gary Verdickt

INFECTION CONTROL MANUAL – Systematic Operating Procedures (SOP)

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Introduction:

This infection control manual is supplemented by, and to be read in conjunction with, the following references which Dr Gary Verdickt, Endodontist has in its possession:

- *NMHRC Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019)*
- *Australian Dental Association Guidelines for Infection Control 4th Ed (2021)*
- *Creutzfeldt-Jacob Disease Infection Control Guidelines Dec. 2013*
- *AS/NZS 4815*

Dr Gary Verdickt has implemented the infection control measures, protocols and procedures outlined in this manual to prevent the transmission of disease-producing agents such as bacteria, viruses and fungi from one patient to another patient, from dental practitioner and dental staff to patients, and from patients to dental practitioner or other staff. It is necessary that endogenous spread of infection also be prevented by limiting the spread of infectious agents.

Successful infection control involves:

- understanding the basic principles of infection control;
- creating systems that facilitate implementation and compliance with infection control procedures;
- clear procedural documentation and comprehensive training of dental practitioners/other staff
- a process of regular monitoring of the application of these systems and procedures; and
- keeping up-to-date regarding specific infectious diseases, new products and procedures, particularly newly-evolving infection challenges.

Microorganisms

Microorganisms may be inhaled, implanted, ingested, injected, or splashed onto the skin or mucosa, and may be spread as a result of:

- transmission by direct contact from one person to another;
- Indirect contact via instruments and equipment;
- a staff member's hands or clothing becoming contaminated;
- patient-care devices being shared between patients;
- infectious patients having contact with other patients;
- environmental surfaces are not regularly decontaminated; or
- airborne transmission – when dental staff or others inhale small particles that contain infectious agents.

Infection control focuses on limiting or controlling the factors that influence the transmission of infection, or that contribute to the spread of microorganisms.

The spread of microorganisms may be reduced by:

- limiting surface contamination by microorganisms;
- adhering to good personal hygiene practices, particularly efficient hand hygiene;
- using personal protective equipment;
- using disposable products where appropriate (e.g. paper towels); and
- following risk minimisation techniques such as using rubber dam and pre-procedural mouth rinsing.

Standard and Transmission-Based Precautions

Standard precautions are the basic processes of infection control used to minimise the risk of transmission of infection.

Standard precautions include:

- undertaking regular hand hygiene before gloving and after glove removal;
- using personal protective barriers such as gloves, masks, eye protection and gowns;
- wearing appropriate protective equipment during clinical procedures and when cleaning and reprocessing
- correctly handling contaminated waste;
- appropriately handling sharps;
- appropriately reprocessing reusable instruments;
- effectively undertaking environmental cleaning;
- respiratory hygiene and cough etiquette;
- using aseptic non-touch techniques where indicated;
- appropriately handling used linen and clinical gowns; and
- using, where appropriate, environmental barriers such as plastic coverings on surfaces and other items that may become contaminated or that are difficult to clean.

These Systematic Operating Procedures are based on the implementation of standard precautions, unless otherwise stated.

This Infection Control Manual does not contain prescriptive instructions where modifications to

standard precautions for specific conditions and transmission-based precaustions may be necessary.

Transmission-based precautions are applied to patients who are supected or confirmed with agents transmitted by contact, droplet or airbourne routes. The combination of measures used for these patients depends on the route(s) of transmission of the infectious agent and involves a combination of the following measures:

- continued implementation of standard precautions;
- appropriate use of personal protective equipment including gloves, aprons or gowns, surgical masks or P2 respirators and protective eyewear;
- patient dedicated equipment;
- allocation of single rooms or cohorting patients;
- appropriate air handling requirements;
- enhanced cleaning and disenfecting of the patient enviroment; and
- restricted transfer of patients within and between facilities.

Additional information regarding transmission-based precautions may be found in the *October 2010 NHMRC "Infection Control Guidelines for the prevention of Transmission of Infectious Diseases in the Health Care Setting*", and *Cruetzfeldt-Jacob disease Infection Control Guidelines Dec. 2007.*

Additional precautions are not required beyond standard precautions for patients with blood borne viruses such as HIV, Hepatitis B or C, unless there are complicating infections present, such as Pulmonary Tuberculosis.

Definitions:

Bloodborne viruses (BBVs) include hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency (HIV). These viruses are transmitted primarily by blood-to-blood contact.

Clinical support staff are those staff members other than registered Dental Practitioner/s who assist in the provision of dental services, including; Dental Assistants, Dental Nurses, Dental Laboratory Assistants and Dental Technicians.

Contaminated zone is that area of work in which contamination by patient fluids (blood and saliva) may occur by transfer, splashing or splatter of material. It includes the operating field in the dental operatory, as well as the instrument cleaning area within the sterilising room. Contamination must be confined and contained to this area.

Disinfection is the destruction of pathogenic and other kinds of microorganisms by physical or chemical means. Disinfection inactivates non-sporing microorganisms using either thermal (heat alone, or heat and water) or chemical means.

Exposure incident is any incident where a contaminated object or substance breaches the integrity of the skin or mucous membranes or comes into contact with the eyes.

Exposure prone procedures (EPPs) are procedures where there is a risk of injury to dental staff resulting in exposure of the patient's open tissues to the blood of the staff member. These procedures include those where the dental staff's hands (whether gloved or not) may be in contact with sharp instruments, needle tips or sharp tissues (spicules of bone or teeth) inside a patient's open body cavity, wound or confined anatomical space where the hands or fingertips may not be completely visible at all times.

Invasive procedure is any procedure that pierces skin or mucous membrane or enters a body cavity or organ. This includes surgical entry into tissues, cavities or organs, or repair of traumatic injuries to the soft tissues.

A **surgical procedure** is one where there is a planned breach of a patient's skin or mucosa and penetration into deeper layers of tissue which have a different immune response

Infection Control Measures used to avoid cross Contamination in this practice include:

- limiting the extent of surface contamination;
- maintaining high standards of personal hygiene;
- employing personal (barrier) protection in the form of PPE;
- using single use items and disposable products where required;
- following risk minimisation techniques, including rubber dam and pre-procedural rinses with antimicrobial agents; and
- destroying microorganisms on instruments by correct reprocessing methods involving cleaning followed by sterilization.

Equipment and instruments that are used in the treatment of mucosal lesions or diseased soft tissue and that come in direct contact with mucosa and gingiva must be single use, disposable or cleaned and re-sterilised after each patient. Examples are electrosurgery, cryotherapy and related devices and tips

When **sterilisation** cannot be employed, **disinfection or decontamination** is undertaken. As not all instruments carry a high risk of cross contamination, consideration is given to how instruments should be decontaminated. The instruments are classified according to the degree of risk associated with cross contamination and the nature of the site.

Critical Item: Where there is entry or penetration into sterile tissue, cavity or bloodstream (e.g. surgical dental procedures such as the removal of a fully impacted tooth, extraction, and endodontic procedures on vital pulp tissue). Examples: dental forceps and elevators, flap retractors and surgical burs, instruments used in the placement of implants, implantable items including mini implants, and surgical dental hand pieces. These instruments must be sterile at the time of use and must be either 'single use disposable' or capable of being steam sterilised. Critical items must be used immediately after sterilisation or bagged prior to sterilisation and kept stored in bags until used. Instruments stored in bags that are found to be damaged must be re-sterilised before use. Batch control identification (BCI) should be used for these surgical instruments.

Semi-critical Item: Where there is contact with intact non-sterile mucosa or non-intact skin. Examples: mouth mirrors, restorative instruments, dental tweezers and probes, metal impression trays, and other noncritical items when used occasionally in the mouth (e.g. Le Cron carver). Instruments must be sterilised where possible, and when not possible an appropriate barrier placed (e.g. curing light tip). Instruments should be 'single use disposable' or sterilised after use. After processing, semi-critical instruments should be stored in a way to prevent contamination prior to use by being kept bagged in closed drawers or in dedicated containers such as instrument cassettes. While instruments used in semi-critical procedures should, where possible, be sterilised between patients, they do not need batch control identification and

are not required to be sterile at the point of use. In some rare instances thermal disinfection using heat and water is acceptable and professional judgement needs to be exercised (e.g. thermal disinfection of denture polishing buffs may be appropriate as these are unlikely to be contaminated with blood).

Non-critical Item: Where there is contact with intact skin (lowest risk). Examples: prosthetic gauges and measuring devices, face bows, protective eyewear, bib chains and Dappens dishes, Willis gauges. Cleaning alone with detergent and water is generally sufficient but in some cases thermal disinfection with heat and water is appropriate. After processing, these instruments should be stored in the same way as semi-critical instruments to prevent environmental contamination prior to use.

Staff Induction and Training

All staff at Dr Gary Verdickt will undergo a staff training programme and be mentored during their "probationary" term of employment. This applies to temporary staff and cleaners. All dental practitioners and clinical support staff are to be advised to have immunisations and may be offered relevant vaccinations consistent with the NHMRC's The Australian Immunisation Handbook.

For further information, consult the Australian Immunisation Handbook, 9th Edition (2008) or the Immunise Australia website.

The expectations for all healthcare workers – and thus for dental practitioners and clinical support staff – is immunisation to HBV; varicella (if seronegative); measles – mumps – rubella (if non-immune); pertussis (whooping cough); and annual immunisation for viral influenza. Those who work with remote indigenous communities are advised to also receive immunisation for hepatitis A, while those at high risk of exposure to drug-resistant cases of tuberculosis should also undergo vaccination with BCG. Any staff member has the right to refuse vaccination; however, this refusal must be documented with their reason for refusal noted and signed by him/her.

Staff Induction and Training:

All staff members are expected to be familiar with the SOP. The person (or position) responsible for meeting, introducing and advising a new employee on his/her first day and subsequently during the induction programme is Dr Gary Verdickt

(The individual or role specified above also ensures each staff member has completed the **Induction Record Listing-Form**) The staff members are then provided with **The Infection Control Protocols - Statement of Completion Form** which is completed, signed by the staff member and trainer, dated and copied, with the original being placed in the employee's personnel file, and a copy given to the employee.

Staff handbooks relevant to the employee's work and position in the practice are:

1. Immunisation Register: form

2. Accident Record: form

3. Systematic Operating Procedures (this book). This is located in the staff room.

Amendments to the Infection Control Manual SOP:

The SOP are revised and updated as new information comes to hand. Amendments are listed in SOP amendment form at the end of this manual.

Staff meetings

Staff meetings provide a forum to discuss changes in work practises. Infection control matters will always form part of the staff meeting agenda. Staff are encouraged to raise issues with the management if they arise prior to such meetings.

Staff Meeting Agenda-Discussion Matters:

The team meets to discuss matters which have been noted on the Agenda Form quarterly.

* An agenda for the staff meeting is provided to all practice members at the meeting.

Staff Meeting Minutes:

A summary of the staff meeting is then provided to all practice members. Any subject which cannot be resolved to the satisfaction of all staff is referred to a delegated member of staff, who is responsible for researching relevant information and providing feedback to the staff at the next meeting, or if necessary, identifying suitable training courses for staff to attend. The application of any new techniques or practices arising from such training programmes is to be discussed with the entire dental team, prior to introduction into this practice.

Temporary Staff and Cleaner's Information

Temporary staff and cleaners employed at Dr Gary Verdickt, Endodontist are made aware of waste management and cleaning procedures including:

- Hand hygiene
- Preparation of clinical areas
- Processing of equipment and
- Waste management

Requirements and Responsibilities of the Dental Team

The members of the dental team at Dr Gary Verdickt, Endodontist have an ethical responsibility to know their own infectious status and Dental Practitioner/s have an additional legal responsibility. It is each staff member's responsibility to act appropriately according to that staff member's status. This may, on occasion require an infected staff member to advise ones employer.

Dental Practitioners at Dr Gary Verdickt, Endodontist who are infected with, or who are carriers of, Hepatitis B or C should seek the advice of infectious disease specialists familiar with the requirements of dental practice and an advisory panel regarding their fitness to practice. As a result, the practitioner will modify their clinical practice appropriately.

This includes not undertaking any EPPs while viraemic in accordance with the relevant policies of the Dental Board of Australia and the current CDNA *Australian National Guidelines for the Management of Health Care Workers known to be infected with Blood-Borne Viruses* (CDNA Australian National Guidelines).

According to the latter, dental practitioners who are infected with HIV are unable to continue to undertake exposure prone procedures.

General Personal Hygiene

Each staff member should pay particular attention to ensure their personal hygiene is of the highest standard. This is essential in reducing the health risks associated with occupational duties and the working proximity to patients. A series of personal protective strategies are employed to protect personnel and patients in the surgery.

- Personal protective equipment (PPE), including gloves, masks, gowns and protective glasses are worn; and
- Intact skin is a proven and effective barrier to infectious agents. Therefore judicious care in the prevention of hand injury should be exercised by ensuring hands are protected at all times during various occupational activities and practices including non-workplace activities such as gardening, cleaning etc.

Technique

1. Remove all jewellery, including bangles, bracelets, watches and rings from hands and arms, because jewellery interferes with effective hand hygiene and are not to be worn during clinical practice.
2. Check nails. They should be kept short and clean and the use of nail polish avoided. Artificial nails must not be worn by any staff member involved in direct patient care.
3. Check that the skin is intact, and treat compromised, broken or injured skin appropriately. Any breached skin (cuts, dermatitis or abrasion) should be covered with a semi-permeable film dressing. Band-Aids are not recommended in clinical areas as once wet they stay moist and potentially become an ideal environment for microorganisms.
4. Ensure hands and forearms are clean and bare. The sleeves of personal clothing must not extend below the elbow and must be covered by a clinical gown's short sleeves. Long sleeved casual clothing is not to be worn under short sleeved clinical gowns.

Hand Hygiene

Clinical are required to perform effective hand hygiene before and after every patient contact, before and after performing any clinical procedures and after touching the patient's environment.

Hand hygiene reduces levels of potentially infectious microorganisms on the skin. Hand hygiene is a general term applying to processes aiming to reduce the number of microorganisms on hands. This includes either the application of a waterless antimicrobial agent, e.g. **alcohol-based hand rubs** (ABHR), to the surface of the hands, or the use of soap/solution (plain or antimicrobial) and water.

The most common technique for routine hand hygiene is the use of ABHR whenever hands are not visibly soiled. ABHR is favoured as it is quick acting, air dries, contains an emollient and is less harsh on hands. If hands are visibly soiled then hand washing is required, as the friction of the wash is needed to remove the transient microorganisms.

Comprehensive information on contemporary hand hygiene measures is found on the Hand Hygiene Australia (HHA) website. Dr Gary Verdickt, Endodontist practices hand hygiene procedures in accordance with the World Health Organisation's recommendation of "Your 5 Moments for Hand Hygiene (Dental Care)", "How to Hand wash" and "How to Hand Rub?" as shown at www.hha.org.au

Appropriate use of Alcohol-Based Hand Rubs (ABHR):

- Only if hands are NOT visibly soiled
- Before putting on gloves
- Before handling an instrument for patient care, regardless of whether or not gloves are used
- After removing gloves
- Between patient appointments and during interruptions

Gloves complement hand hygiene and are not a substitute to proper hand hygiene practice.

Hands must always be washed at the start of a working session, after toilet breaks, upon leaving the surgery at the end of the day, and after routine grooming. They must also be washed with soap and water when visibly dirty or contaminated with proteinaceous material, or visibly soiled with blood or other body fluids.

Washing hands with soap and water immediately before or after using an ABHR's is not only unnecessary, it may lead to dermatitis.

When hand washing is required, use liquid hand wash from dispensers where possible. Refillable liquid hand wash dispensers are not recommended.

Alcohol Based Hand Rub Technique

1. Remove jewellery.
2. Checks hands for cuts, abrasions, or lesions.
3. Squirt hand rub undiluted once into the palm of cupped dry hand (1-3 mL)
4. Use a broom action with the fingers to disperse the gel across the hands and particularly onto the fingertips.
5. Rub vigorously for 10-15 seconds, after which time the hands will be dry. Ensure gel reaches all areas of the fingers and hands, including webbing between fingers and the backs of the hands. The hands should be dry by 15-20 seconds.
6. Apply a compatible moisturiser as required – typically up to four times per day.

Handwashing Technique (Routine)

1. Remove jewellery.
2. Checks hands for cuts, abrasions, or lesions.
3. Wet hands thoroughly
4. Apply neutral pH liquid detergent
5. Lather vigorously for 10-15 seconds, using a set sequence, e.g. palm to palm; palm over dorsum; fingers interlaced; rotate thumbs in palms; rotate fingers in palms.
6. Rinse under running tap water.
7. Pat dry using paper towel.
8. Turn off taps, ensuring they are not touched with clean, washed hands.

Handwashing Technique (Aseptic)

1. Remove jewellery.
2. Checks hands for cuts, abrasions, or lesions.
3. Wet hands thoroughly
4. Apply antimicrobial liquid (e.g. 2% chlorhexidine gluconate liquid soap)
5. Lather vigorously for 60 seconds.
6. Rinse under running tap water.
7. Pat dry using paper towel.

Turn off taps, ensuring they are not touched with clean, washed hands.

Handwashing Technique (Surgical)

1. Remove jewellery.
2. Checks hands for cuts, abrasions, or lesions.
3. Wet hands and forearms thoroughly.
4. Apply an approved antimicrobial liquid for approved for use as a surgical hand wash (e.g. 4% chlorhexidine gluconate liquid soap)
5. Lather vigorously across the hands, nails and forearms for 3 to 5 minutes for the first procedure of the day followed by 2 to 3 minutes for subsequent surgical procedures
6. Dry with sterile towels

Hand Cuts and Abrasions

All cuts or abrasions on hands must be covered with a waterproof dressing and changed when necessary, or when the dressing becomes soiled.

Health care providers who have skin problems or weeping dermatitis should seek medical advice.

Gloves

Gloves are to be worn whenever there is risk of exposure to blood or other bodily fluids /matter. All staff must wash hands before and after wearing gloves, or when gloves are changed. Dr Gary Verdickt, Endodontist provides allergen powder free gloves and ensures staff exercises care when removing and discarding examination gloves to avoid contamination.

Nonsterile Powder Free Examination (Procedural) Gloves

Technique

Non-sterile, powder free examination gloves must be warn for procedures that do not require a sterile field, or housekeeping duties require them are to be worn. Dr Gary Verdickt, Endodontist's gloves meet Australian Standard AS/NZS 4011:1997 and are listed with the Therapeutic Goods Administration.

Sterile Powder Free Surgical Gloves Technique

Wear sterile, powder free, surgical gloves for procedures requiring a sterile field and when in contact with normally sterile areas of the body. Ensure Surgical Gloves meet Australian Standard AS/NZS 4179:1997 and are listed with the Therapeutic Goods Administration.

How to place gloves to ensure the sterility of the gloves is maintained is demonstrated in the following Figure (Courtesy of Ansell Healthcare)

A suggested method of placing sterile gloves to prevent contamination of the external surface of the glove.

Gloving Efficacy

Examination gloves are changed and discarded under the following conditions:

- As soon as damage occurs (torn or punctured);
- After contact with each patient;
- On completion of any other task not involving patient contact but requiring the use of gloves; and
- Before answering the telephone or recording patient notes, (unless the pen, keyboard or telephone is covered with a barrier plastic) or other procedures where risk of cross-contamination exists.

Examination gloves are classed as <u>single use</u> medical devices intended to protect healthcare providers and patients from cross-contamination. Examination gloves are to be removed carefully to avoid contamination of hands or other surfaces

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WORN GLOVES ARE NOT TO BE WASHED AND RE-USED.

General Purpose, Utility Gloves

Wear **general purpose, utility gloves** only for housekeeping duties and cleaning.

General Purpose Utility Gloves can be re-used if washed in detergent after use, dried and stored appropriately. Utility gloves are to be replaced if torn, cracked, peeling, or showing signs of wear and tear or deterioration.

Latex Associated Allergies

If skin or other physiological reactions manifest upon contact (or in the vicinity) of latex this must be brought to the attention of the principal dentist or practice manager.

It is essential to assess staff and patients suspected of having an allergy to latex. The most common sources of latex in the surgery are rubber dams and latex gloves.

Provision should be made to utilise non-natural rubber latex (synthetic) products for latex allergic individuals (staff and patients).

Note that only aqueous/water based moisturizers should be used prior to placement of gloves. Oil/fat based creams should be avoided as these may cause latex gloves to deteriorate.

Therapeutic hand creams are generally listed or registered on the Australian Register of Therapeutic Goods displaying either the Aust R (registered) or Aust L (listed) number on the label.

Fingernail Care

1. Keep finger nails clean, trimmed and shaped to avoid puncturing the glove and thus compromising the protection of the barrier.
2. Ensure that the length or shape of the nails does not affect the precision required in handling instruments.
3. Do not wear artificial nails or nail polish which may harbour microorganisms.

Uniforms and Protective Clothing

1. Change into uniforms upon arrival at the practice/surgery.
2. Do not wear uniforms outside the practice at any time.

Gowns and Aprons

1. Wear clinical gowns over uniforms for all procedures in the practice, excluding reception and administrative duties.
2. Do not wear clinical gowns in the staff room or when performing non-treatment related duties.
3. Cover all patients with a waterproof apron to further enhance their protection.

Laundering Technique

1. Change clinical gowns, patient aprons and uniforms immediately they become soiled.
2. Used linen is sorted at the point of generation, bagged for laundering and placed in designated area.
3. Disposable bibs and gowns are placed in the general waste after use, unless visibly contaminated with remnants of biological matter/bodily fluids. Gowns contaminated with bioactive debris are disposed of in the bioactive waste. Wear disposable examination gloves when handling soiled linen.
4. Ensure that no sharps or other objects are mistakenly discarded into linen bags.
5. When washing uniforms, patient aprons and other soiled linen, do so in a separate load, in hot water, utilising an appropriate sanitary laundry detergent.

Protective Eyewear (Safety Glasses)

The practitioner, chair-side assistant and patient must wear protective eyewear during all clinical procedures.

1. Wear protective eyewear prior to commencing any procedure.
2. Place protective eyewear on patients unless the patient is already wearing suitable eyewear.
3. The protective eyewear must comply with *Australian Standard AS/NZS 1336 and 1337,*
4. Protective eyewear must be clear, anti-fog, distortion free, close fitting and shielded at the side.

Masks

1. Wear masks whenever there is the likelihood of blood or other bodily fluids splashing, or when aerosols or droplets (potentially harbouring air borne infectious agents) may occur.
2. Masks must be surgical masks designed for patient care (i.e. have fluid-repellent deflector surfaces, and be capable of filtering particles 3 microns or less, when aerosols or splattering of blood / bodily fluids is probable).
3. Wear masks according to manufacturers' instructions.
4. Avoid touching mask with hands whilst being worn.
5. Change masks after appointments where there is 20 minutes or more of continuous exposure to aerosols, or as soon as practicable after they become moist or visibly soiled.
6. Remove masks with care. Touch the strings and loops only.
7. Do not wear masks loosely around the neck, but remove and discard into general waste as soon as practicable after use. Dispose of masks contaminated with patient's blood or body fluids as medical/contaminated waste.

Patients with active tuberculosis will be directed to seek treatment from an appropriate oral health care facility and in other situations (such as acute viral influenza) where droplet precautions are required, patients will be encouraged to re-appoint until they have passed their acute phase. In circumstances where this is unavoidable an approved surgical respirator (P2, N95 or better) mask which is capable of filtering particles of 1 micron or less will be used by the clinical attending staff.

Footwear

At all times, all staff footwear must be enclosed (covered) and capable of protecting the wearer from injury or contact with sharp objects, such as dropped instruments.

Hair nets and face shields

In order to further enhance personal protection the use of face shields and head coverings can be considered. Head coverings such as hair nets and caps are often used during surgical procedures.

Hair

Long hair is to be securely tied back with hair bands or pins, and/or use a theatre cap.

RUBBER OR SYNTHETIC DAMS

Reducing the extent of contamination of the dental operatory can be achieved in part by use of rubber dam, pre-procedural antiseptic mouth rinses, high volume evacuation and correct patient positioning. Rubber dam minimises the spread of blood or saliva. When rubber dam is not applied, high volume aspiration becomes essential.

Use rubber or synthetic (non-latex) dams for restorative procedures wherever possible, and for all non-surgical endodontic procedures.

DISINFECTION OF MUCOSA AND DENTITION

Disinfectant over the dentition and mucosa is used prior to commencement of:

- certain dental procedures which require aseptic techniques (such as endodontics, where disinfectants such as iodine, chlorhexidine or sodium hypochlorite may be used; and
- certain surgical and periodontal procedures.

When rubber / synthetic dam is utilised, the disinfectant is applied after the dam is in place.

Pre-operative antimicrobial mouthwash may be utilised for 30-60 seconds before commencement of the procedure, according to the manufacturer's instructions.

For surgical procedures, a pre-procedural mouthwash may be utilised in conjunction with a prophylactic antibiotic, in line with recommendations from the current edition of the *Therapeutic Guidelines: Oral and Dental*.

Immunisation

Dr Gary Verdickt, Endodontist is responsible in ensuring that all staff maintain a record of vaccination and to update these records as required**.** Dental Practitioners are expected to know their immunisation status. Generally it is not necessary to obtain a booster dose of hepatitis B vaccination however immune status should be checked every 2 years for the infections listed below.

The NH&MRC guidelines (The Australian Immunisation Handbook, 9th edition, 2008) recommends the following vaccinations against infections which may be encountered by health care professionals, laboratory staff, and health care students.

- Hepatitis B
- Influenza
- Pertussis (dTpa if not previously provided)
- MMR (if not immune)
- Varicella (if seronegative)
- Hepatitis A for HCW's in remote Indigenous locations in NT, Qld, SA and WA
- BCG if at risk to exposure to drug resistant tuberculosis

Screening as necessary for the following conditions is a requirement at Dr Gary Verdickt, Endodontist:

- Exfoliative skin conditions
- Immune disorders
- Herpes Simplex infection
- Hepatitis B (antibody levels)
- Hepatitis C infection
- HIV infection
- Rubella

Immunisation/health screening records are updated regularly for all staff during their period of employment. All vaccinations are checked for immunological response after vaccination.

Staff has access to their screening records on request. These records are transferable to a subsequent workplace when authorised by the staff member leaving the practice.

Staff member refusing immunisation, will have this recorded together with the reason for refusal on their immunisation record (CDNA 2004).

The most recent edition of The Australian Immunisation Handbook provides detailed information on immunisation schedules and vaccines (available from http://immunise.health.gov.au/)

Vacuum cleaner

Dr Gary Verdickt, Endodontist uses damp dusting and vacuum cleaners rather than brooms and empties the vacuum container weekly.

The person responsible for emptying the vacuum cleaner is the Receptionist

Bench Surfaces

Bench surfaces are to be kept free of clutter and stored in drawers or cupboards where possible.

Waste Management

The Waste Collection area is divided into:

- infected (medical/path) waste (including sharps);
- general waste;
- paper, bottles, cans, plastic recycle; and

Small equipment

Items of small equipment include items such as:

- light curing units;
- ultrasonic scalers;
- electrosurgical equipment;
- pulp testers; and
- automixers.

These items should be kept away from the zone of splatter during patient treatment.

Designated Clinical (or Procedural) Areas

Clinical areas are divided into a number of designated zones areas that are maintained to control the risk of cross contamination. Every employee should understand the zones, the requirements for each zone and adhere to the outlined protocols. Staff must not bring personal effects, changes of clothing, or bags into the contaminated zone.

Clinical Area Zone 1 - Treatment zone

Any item that comes in and out of the treatment zone must be sterilised, decontaminated (i.e. if the item is too large to steam sterilise or heat labile) or discarded (if it is a single use item).

THE TREATMENT ZONE CONSISTS OF:

- the patient's mouth
- dental light handles
- triple syringe and holder
- headrest
- bracket table
- handpieces and couplings
- suction apparatus

To limit surface contamination, consult the patient's record and prepare materials according to the treatment to be provided prior to the commencement of treatment. If items are required to be pre-cut, or pre-dispensed, do this prior to the patient's arrival (see Procedures Monitor form).

For surfaces which cannot be sterilised and are accidentally soiled, clean using a neutral or alkaline detergent with a pH range of 8.0 to 10.8 and a lint free cloth or paper towel. Dilute the detergent with water according to the manufacturer's instructions.

Mild alkaline detergents are more effective than neutral detergents in removing blood and fat from contaminated objects, but may be more corrosive. Neutral detergents may therefore be considered for use in regions where corrosion or degradation of surfaces is an issue.

Stainless steel surfaces may be cleaned with a stainless steel cleaner.

All chemicals used in the practice require Material Safety Data Sheets (MSDS). These sheets will contain advice on incompatibilities (i.e. not to mix the cleaning agent with other chemicals) as well as safe use, disposal and first aid instructions, and specific storage requirements. Keep these material safety data sheets in a safe and accessible location.

MATERIAL SAFETY DATA SHEETS

Material Safety Data Sheets are kept in the Staff Room

Ensure the chemical agents are labelled by the manufacturer with:

- name of the product;
- name and address of the manufacturer;
- description and purpose of the product;
- directions for dilution and use;
- batch number;
- expiry date.

All chemicals used in the surgery must comply with National Industrial Chemicals Notification and Assessment Scheme (NICNAS) or Therapeutic Goods Administration requirements. In Australia, industrial chemicals are regulated by the Australian Government under the Industrial Chemicals (Notification and Assessment) Act 1989, which is administered by NICNAS and located within the Office of Chemical Safety in the Health and Ageing portfolio. All products which contain chemicals and substances which are sold, imported or made in Australia must be therefore listed on NICNAS. If the chemical is deemed to have therapeutic value it must also be listed with the TGA. Detergents are not deemed to be therapeutic substances or devices.

Clinical Area Zone 2 - Treatment periphery

The **treatment periphery** is the area outside the **treatment zone**, within the **clinical area**, where materials are mixed and containers and equipment are placed. Contamination can occur if surface contact and transfer of articles from the **treatment zone** to the **treatment periphery** happens without using aseptic techniques.

Clinical Procedures Set-up in the treatment zone

General considerations in procedure set-up

Only items required for each patient's treatment are stored in the treatment zone. Within the treatment zone do not mix contaminated and sterile instruments.

Designate contaminated and sterile regions clearly; (i.e. where contaminated material can be placed and where contaminated materials cannot be placed).

CONTAMINATED MATERIAL:

Contaminated material is placed: **On any of the sterile blue disposable drapes in the treamtent aree.**

Cover large items which may become contaminated but cannot be sterilised, with a disposable or sterilisable barrier, which is changed between patients.

SURFACE CLEANING AND BARRIER REPLACEMENT:

Prior to covering those surfaces which are likely to be contaminated, clean these surfaces with detergent. This is done at the beginning of the day but is not required between patients unless the surface is contaminated. The items and/or surfaces which may require covering differ according to the brand and type of dental unit, so must be assessed individually.

1. **Light handles and switches**

Light positions are preset. Turn Light switches ON/OFF at the beginning and end of procedures, with adjustments being made by using the handle only. If not designed for wiping, thermal disinfection or aterilizing, the light switches and handles are covered with barrier wrap and renewed after each patient. Barrier wrap may be disposable or steam sterilisable.

2. **Hand operated chair controls with disposable barriers**
3. **Bracket tables with sterile disposable kim guard drape**
4. **Suction hoses with** disposable plastic sleeve
5. **Couplings and hoses for handpieces not covered. These are wiped between patients.**
6. **Couplings and hoses for Ultrasonic handpieces not covered. These are wiped between patients.**
7. **Couplings and hoses for triple syringes with plastic sleeve, and disposable plastic triplex tips are used.**
8. **X-ray head covered with adhesive strips where touched by gloved hands.**
9. **Curing light with disposable plastic sleeve.**
10. **Headrests are covered using disposable plastic-lined headreast covers.**
11. **Coupling cardles are covered with disposable plastic adhesive barriers.**
12. **Burner is covered with adhesive plastic barrier film.**

Place used disposable barriers which have come into contact with blood or saliva into the contaminated waste, rather than in the general waste.

When replacing barriers:

1. Remove the contaminated barrier /covering while gloves are still on;
2. Next remove gloves and perform hand hygiene;
3. Put on a new pair of gloves prior to covering the surfaces with clean barriers before the next patient; and
4. Items and/or surfaces requiring barrier coverage do not require wiping between patients. These items / surfaces should be wiped at the beginning and end of each day.

Those surfaces which are not covered and may have become contaminated, e.g. bracket arm, patient chair, etc. should be cleaned with a detergent as specified above.

THE AREAS WHICH ARE WIPED INCLUDE:

Handpiece tubing.

Procedures

When considering treatment procedures employ risk minimisation techniques. This is achieved by:

- suitable consideration of equipment flow patterns;
- correct management of sharp instruments; and
- suitable treatment procedures during exposure prone procedures, e.g. provision of local anaesthetic, suturing, or other clinical tasks. During these procedures fingers should not retract.

The assistants work in concert as a team with the oral health practitioner, to prevent injury and promote a safe working environment.

Examination gloves, masks, safety glasses and patient safety glasses are required for all patient treatment procedures.

Management of Instruments and Batch Control Identification

As a quality assurance and risk reduction measure, Dr Gary Verdickt uses a system for critical packages of equipment, i.e. those critical instruments used in surgical procedures. This requirement arises from AS 4815 section 8.5.2.1 which states that batch control numbers should be in place to link steriliser cycle batch information of a critical item that has been sterilised, to the patient. Batch control identification links a pack of surgical instruments used on a patient to a particular sterilising cycle and thereby allows oral health practitioners to demonstrate that those critical dental instruments used on that patient have been through a particular steriliser cycle with verifiable performance data.

This approach does not apply to semi-critical items used in routine dentistry.

A batch code comprises a simple sequence of numbers, such as that produced from a labelling gun, or can be combinations of a number sequence with codes for the date and the steam steriliser number (if the practice has several steam sterilisers).

As described in AS 4815 section 8.5.2.1, the batch control identification includes the steriliser identification number or code (if there is more than one steriliser within the facility), the date of sterilisation, and the cycle or load number. Batch information can be recorded on packs prior to steam sterilising using non-soluble permanent marker ink, or by using adhesive labels applied with a labelling gun, provided that the inks and adhesives used can tolerate steam sterilising. Several segmented (piggyback) adhesive label systems are available, where one part of the label is peeled off the pack when setting up for the procedure, and placed directly under the day's entry on the patient's hard copy chart.

At the time of the critical procedure, as instruments are removed from their packages, the now-empty packages should not immediately be placed into the waste, but rather put to one side in a clean zone of the operatory so that the batch number information can later be recorded into the treatment records of the patient by the clinician, chair side assistant or scout assistant responsible, as part of the patient record procedure.

Instruments which are used in critical sites must be packaged prior to sterilisation so as to remain sterile in the packaging. This allows the surgical instruments to be sterile at their point of use.

Implantable items must cross-reference the patients with the batch and manufacturer code detail. Practitioners placing implants are required to keep such records.

Surgical Instruments for Batch Control Identification (BCI)

Oral surgery instruments are those used for exodontia, dentoalveolar, periodontal, endodontic and implant surgery, as well as sets for implant placement.

In order to minimise BCI requirements, place surgical instruments in kits where practicable. These kits will then have a label with the steriliser cycle number and date which is then transferred to the patient record.

Brief consultation/examination/review appointments

When a patient consultation is limited to a brief review appointment:

- The chair side assistant acts as a "scout" nurse and is not directly involved with the clinical procedure;
- The chair side assistant pre-sets and adjusts where necessary dental chairs, carts and lights while AVOIDING contaminating hands and, therefore, equipment;
- Contamination is confined to the clinician's gloved hands, instruments, patient appliances (e.g., dentures, splints) and hand pieces used for adjustments;
- The clinician is conscious of replacing contaminated instruments and materials directly into designated receptacles (such as the working surface, waste bins) without touching chair controls, lights, etc.; and
- At the end of the procedure, the chair side assistant removes barriers, contaminated instrument trays, hand pieces, suction tips and triple syringes/tips and wipes down appropriate areas with detergent, according to 'General considerations in procedure set-up''.

The instruments used are sterilised between patients.

If a CO_2 pencil is used, this is wrapped in gauze when used intra-orally and autoclaved after use.

PACKAGING FOR STERILISATION:

Packaging for items prior to sterilisation.

The method of packaging the Brief Consultation/ Examination/Review Appointments and periodontal maintenance kit for sterilisation is: Plastic/Paper sealed envelopes.

These kits are stored in drawers in the surgery.

Mouth Rinsing

Patients are encouraged not to rinse and spit into spittoons. High-speed suction is used as much as possible.

When necessary, patients may use two cups (one with rinsing liquid and one empty, in which to expectorate). Expectorant liquids are removed by suction, or discarded in the sink.

Disposable cups are disposed of in the general waste bins, unless contaminated with blood.

RINSING:

The system used for expectorated liquids is Disposable cups

Restorative procedures

Those materials which require hand mixing are mixed in disposable Dappens dishes, or on paper pads or on glass slabs.

DETERGENT FOR GLASS SLABS:

The brand of detergent used to clean the glass slabs is Dentalife Neutral Detergent.

When paper pads are used, ensure the pad is not touched by contaminated hands. A single sheet of paper from the pad is prepared prior to the procedure. Resin, amalgam and bonding agents are prepared prior to the commencement of treatment.

Rubber dam is used wherever possible as an effective measure to limit contamination.

Management of Instruments

RESTORATION KITS:

Restoration Kits are packaged in Kimguard.

Restoration Kits are stored in a cupboard.

Management of Materials

Materials listed in the practice "Procedural Instruments and Materials List" are pre-dispensed and pre-prepared as appropriate. Ideally sterile individual dosages or blister packs are to be used.

Local Anaesthesia (LA)

When administering LA, a mouth mirror or other suitable instrument is used for retraction. Do not use fingers as retractors.

Immediately after injection, dispose of needles or resheathe carefully using tweezers or artery forceps. Never leave used injection needles unsheathed on any surface.

The person who administers the local anaesthetic

- changes the carpules; and
- sheathes the needle and / or removes the needle from the syringe.

Never pass an unsheathed needle (or any other sharp item) from one person to another.

The technique used to remove needles is:

1. Needles are not resheathed before removal from the syringe.
2. The needle is unscrewed from the syringe using artery forceps to grasp the unsheathed needle.
3. The unsheathed needle is placed in the sharps container in the surgery. Do not transport exposed sharps from one room to another.

After administering LA, cleanse the patient's mouth with triple syringe and high-speed evacuation.

Endodontic Root Surgery and Biopsy

All these procedures are carried out aseptically. Invasive procedures are undertaken using sterile gloves. It is required that all instruments are packaged and sterilised prior to use so as to remain sterile in the packaging.

Biopsy Specimens are:

1. Completely immersed immediately in formalin.

2. These containers are then placed in sealed plastic bags for transport

Biopsy specimens are sent to Laverty Sutherland across the road, taken by Dr Gary Verdickt

Specimen bottles are obtained from Laverty Sutherland.

Management of Instruments

Prosthodontic instruments	Stored in autoclavable trays wrapped in Kimguard.
Mouth mirror and sickle probe	Stored in Sterile Packs.
Materials and waxes	Materials are stored in cupboards, and only dispensed before the patient arrives. (All materials are pre-dispensed for each case and all unused material is discarded.)

Endodontics

Prior to the patient arriving, the items required for the endodontic procedure are prepared and dispensed.

Reamers, hand files and broaches used in endodontic treatment are single use and not used for other patients.

During endodontic procedures do not use fingers to clean the files or explorers or sharp probes. Sharp instruments are to be cleaned are simply disposed of an replaced with a new file.

Additional items

Know where spare sterile spreaders, spare sterile files, and bands and cements are kept.

Management of Instruments

Endodontic set-ups and instruments	Sterile in the packaging (files and sponges)

ENDODONTICS:

Endodontic items are packaged in autoclavable trays wrapped in Kimguard.

Endodontic items are stored in cupboards.

Special considerations during endodontics

Gutta percha is stored in sealed plastic containers.

Spare sterile files are maintained in packs and stored in cupboards.

Retain the sterile transfer tweezers to retrieve gutta percha as required from the gutta percha container.

The **transfer tweezers** are stored half in the contaminated zone (handles) and half in the clean zone (tips).

When writing information, remove gloves, use alcohol rub, and then write records.

Aseptic no-touch technique

This refers to those procedures which maintain objects and areas as free from microorganisms as possible. The concept of the **aseptic no-touch technique** should be adopted by all practitioners undertaking invasive procedures such as surgical procedures or extractions, i.e. where the defences of the body are breached. Surgical instruments within the treatment zone must be clean and sterile (or, as a minimum, subject to high-level chemical or thermal disinfection). In dental practice, the operating field includes anywhere that the patient's blood (or other body substances, including saliva) may transfer to during a procedure. We therefore try to limit the extent of the treatment zone. The sterile field is enhanced with the use of sterile drapes and gloves. In endodontics, appropriate attention to not touching those parts of the instruments in contact with the accessed canal with hands avoids the need to use sterile gloves.

Retrieval of additional instruments and materials

When additional materials or equipment from outside the treatment zone are required during dental procedures, remove and discard gloves and perform hand hygiene. Re-gloving is then required to continue the procedure. OR Use transfer tweezers at the dispensing area.

Drawers are opened after de-gloving, or utilising a no-touch technique, (i.e. with the use of single use disposable or steam sterilisable plastic barriers on handles).

INSTRUMENT AND MATERIALS RETRIEVAL / TRANSFER TWEEZERS:

The preference is for Transfer tweezers

Transfer tweezers used for retrieving additional items from the drawers are stored with each kit, and before the procedure are placed in a separate area from other instruments. **Transfer tweezers** must then be steam sterilised after use.

Sterile **transfer tweezers** are required for endodontics.

Radiographs

Disposable barrier envelopes are recommended for use for each intra-oral film (or phosphor plate or digital sensor). These will have been pre-sealed, and stored in drawers. Transfer tweezers or de-gloving (i.e. removal of contaminated gloves) are used to retrieve additional items if required.

The pre-set exposure controls are not touched with contaminated hands. The person exposing the X-ray de-gloves and uses hand hygiene before pressing the controls. After exposure of the film, the barrier envelope of the contaminated intra-oral film or sensor is opened and the uncontaminated film or sensor is shaken onto a covered bench top or into a labelled cup for transport to the darkroom or to the phosphor plate reader. Take care not to contaminate workbenches and external surfaces of cups.

Films are transported by hand..

The technique for taking radiographs

- Dr Gary Verdickt positions the film and, removes gloves, uses alcohol rub, and positions X-ray tube and adjusts the X-ray exposure;
- Dental Assistant removes gloves, uses alcohol rub, places lead thyroid collar on patient.
- Dr Gary Verdickt exposes the film, gloves up, removes the film from the plastic barrier, and gives it to the Dental Assistant to process.
  Dental Assistant removes the Lead Thyroid Collar.

- Dental Assistant develops the film.

Processed films are transported back to the viewing light box in disposable plastic cups.

The X-Ray button is not used with gloved hands.

Pathology

The staff member responsible for ensuring that each specimen container is labeled with the patient's name and date is Dr Gary Verdickt. Dr Gary Verdickt is responsible for placing each biopsy specimen in a sturdy container with a secure lid, to prevent leakage during transport. Care is taken when collecting specimens to avoid contamination of the outside of the container. If the outside of the container is visibly contaminated, it is cleaned with neutral detergent.

The container is then placed in an impervious bag and couriered to Symbion by Dr Gary Verdickt for analysis.

Cleaning During Patient Treatments

The dental practitioner and their dental assistants work in unison. Be organised to the extent that procedures are pre-planned and consequently prepared in advance (not during the procedure). The aim is to be practical, logical (step by step), and efficient.

1. Keep everything organised, prepared and well set up. All instruments are cleaned after their use. Clean up as you go, separating general waste, sharps and contaminated materials. Instruments that are obviously contaminated are wiped to prevent the adhesion of debris to instruments.

2. Hold and pass instruments correctly. (Care is taken not to touch parts of instruments which are to remain sterile, and prevent puncture wounds.) Utilise RISK MINIMISATION TECHNIQUES, including one-way passing of instruments:-

   Clean → Dental assistant → Dentist → Dirty → Bracket table → Clean → Dental assistant → Dentist, etc.

3. Separate nonsterile instruments from those that are sterile during surgical or endodontic procedures.

4. Take care when using sharps, (e.g. files, syringes, probes and scalers). Measuring blocks are used to measure endodontic instruments. File cleaners (sponges) are used to clean files to avoid puncture wounds. Do not pass sharp instruments such as probes and files.

5. All instruments are cleaned of debris immediately after use. Avoid leaving contaminated instruments with drying blood or setting material which would make cleaning difficult. This means that instruments arriving at the instrument recirculation centre (IRC) are already free from visible debris.

6. Where large amounts of aerosol or splatter may be generated (e.g. full mouth ultrasonic scaling), consider using a waterproof apron on the patient, e.g. a large, plastic-backed bib or hairdresser's gown. A bib is placed over the apron. The bib is disposed of after use accordingly. The apron is changed or cleaned when it becomes soiled. It is laundered accordingly. Limit the production of aerosols with the appropriate use of rubber dam and high speed evacuation.

7. To confine contamination, place importance on effective suction (high speed evacuation well placed at the point of operation), as well as the use of rubber dam.

8. The assistant should always be two steps ahead of the dentist. This is required because the dentist is organised and has a routine and the assistant lays out the kit the same way each time. The dentist and assistant are in constant communication to ensure a smooth flowing

procedure. The patient is informed of the progress of the procedure as necessary.

Cleaning Between Patient Appointments

Surface management

The chair side assistant is responsible for removing the barrier drapes used in an aseptic technique and disposing of them appropriately.

The chair side assistant is responsible for wiping surfaces and equipment between patients, according to **"General considerations in procedure set-up"**.

Technique

Examination gloves are worn while wiping down (cleaning) and removing barriers. Use detergent soaked wipes to wipe surfaces. Canisters of pre-soaked detergent wipes are located in the surgery for this purpose.

Surface cleaning is done systematically, addressing all the relevant areas including:

- light handles;
- controls on amalgamators and curing lights;
- light emitter, handles and switches on curing light;
- work surfaces;
- triple syringe;
- hand piece brackets;
- end of suction hoses; and
- impression material dispensers.

Following decontamination, remove gloves, perform hand hygiene, and don new gloves before replacing barriers.

Suction units (aspirators, evacuators)

Intermittent thorough flushing of suction lines with water during treatment is carried out to prevent blood and saliva accumulating and coagulating in suction lines. This is particularly important during long surgery procedures. Also clean or replace the solids filter regularly (e.g. daily). Service and maintain the suction unit at regular intervals according to the manufacturer's instructions. The waste in the solids filter is appropriately disposed of. If waste contains amalgam dispose of this according to our waste disposal policy**.** If there is no amalgam and biological contamination the filtered waste is disposed of in contaminated waste according to our waste disposal policy**.**

At the end of each day, one litre of non-foaming detergent is prepared and 500 ml is aspirated through the high volume aspirator, and 500 ml through the low volume aspirator.

Dental unit waterline management protocol

Water used for mouth rinsing should be of drinkable standard. Water required for irrigation for tooth preparation and ultrasonic scaling should be of a similar quality. Drinking standard can be maintained by keeping the number of colony forming units (CFU) per ml to less than 5, however for elderly and immune compromised patients the recommended level is 200 CFU per ml. The CFU levels can be measured using commercially available test strips (e.g. Millipore MPHC 10025). This is known as a **heterotrophic plate count**.

Equipment purchased as new should contain a self-contained (clean) water system or an internal disinfecting system. If a self-contained water system is not installed ensure that a backflow prevention system, acceptable to the local water authority, is installed.

The chair side assistant is responsible for flushing air and water lines for 2 minutes at the beginning of each clinic day and after treatment of each patient for 30 seconds, (if the handpiece and triple syringe have been used).

Cross contamination can also be minimised by the installation and proper maintenance of anti-retraction (non-return) valves, as well as thorough flushing of the dental unit water lines.

Also flush triple syringes for 20 seconds prior to changing to the triple syringe tip after each appointment. If unable to use sterilisable triple syringe tips, use disposable tips. The water is flushed into the high-speed evacuator.

The ultrasonic scaler handle is also flushed for 20 seconds after use. The scaler tip must be removed at patient changeover. The water is flushed into the high speed evacuator. Sterilise tips in the steam steriliser. (This refers to both piezo electric and magnetostrictive systems.)

Maintenance of self-contained water systems or self-disinfecting systems for dental unit water lines

It is recognised that both dental chair waterlines and self-contained water systems may harbour a biofilm. It is essential that the self-contained water system be suitably maintained.

Read the maintenance instructions and flushing instructions for the unit.

Irrigation for surgical procedures

Use sterile water or sterile saline for surgical procedures.

Hand piece Management

All handpieces are to be steam sterilised between patients.

At the end of the appointment:

- Handpieces are flushed for 30 seconds and then removed from the couplings;
- The handpieces are wiped with detergent and oiled using Assistina.

Other reusable intraoral instruments attached to, but removable from, the dental unit air or water lines, such as ultrasonic scaler tips, and component parts, and air/water triple syringe tips, are cleaned and steam sterilised after each patient.

All burs are sterilised between patients or disposed of after use. Bur brushes are sterilised daily.

Sorting of items, waste management

At the completion of a treatment visit, all sharp items are disposed into the clearly labelled, puncture-resistant, approved sharps container, which conforms to the specifications of Australian Standard AS 4031.

Disposable items which are obviously contaminated with blood are disposed of in the biological waste container located near the X-Ray Head. The chairside assistant then removes gloves, performs hand hygiene and sets up for the next patient with instruments, barrier drapes and equipment.

See our waste disposal policy for further details.

Daily Procedures

Regular cleaning of the clinical areas is essential to maintain a safe working environment for patients and staff. A documented schedule of routine cleaning is maintained for each clinical area. The **Procedures Monitor** Form has been included. After each procedure has been undertaken, the monitor is checked off and signed by the staff member. If an item does not require attention on that day, this item is acknowledged with N/A (not applicable).

Start of day

Each dental unit is dusted with a dampened wipe, such a lint free cloth, and detergent. Horizontal surfaces are wiped; including benches, x-ray machines, windowsills and shelving. All dental units are flushed for 2 minutes.

Any pre-dispensed chlorine solution from the previous day is discarded as it is inactivated by light. Chlorine solutions must be prepared or dispensed daily.

End of day

One litre of non-foaming detergent is prepared according to the manufacturer's instructions and 500 ml is sucked through the high volume aspirator, and 500 ml through the low volume aspirator. If a spittoon is used, then flush 400 ml through the high volume aspirator and 400 ml through the low volume aspirator and 200 ml through the spittoon (see 3.9.2).

All soiled linen is collected and removed to the washing machine.

All surgery sinks are cleaned using neutral detergent.

All equipment is stored in its designated location. Any equipment left out is protected from dust with a Kimguard drape.

Weekly Procedures

Handles of drawers and cupboards are cleaned, by wiping with neutral detergent. Storage facilities for sterile stock are checked and cleaned at least fortnightly.

All environmental surfaces, apart from those contaminated in the treatment zone, are cleaned at least weekly.

Resuscitation equipment is checked (oxygen, suction and air vent) monthly and damp dusted using a detergent soaked wipe. The resuscitation equipment is kept in the surgery area sliding door cupboards.

The internal and external surfaces of the steriliser are cleaned according to manufacturer's maintenance procedures. These instructions are kept in the Steri Room

Monthly Procedures

See the procedures monitor form.

Clerical Areas

Management of patient records

The patient's dental record is not touched with contaminated hands. The dental record remains outside the "treatment zone" (also known as the "operating field") at all times. The record is opened at the appropriate page prior to commencing treatment.

Procedures (or Performance) Monitor

To ensure tasks have been undertaken, a Procedures Monitor (also known as a Performance Monitor) checklist is filled out every day by the dental assistant. If it is not necessary to undertake a particular designated task, "N/A" is written alongside that task. Where a task has been completed, a signature is required to acknowledge the task has satisfactorily been achieved.

PROCEDURES MONITOR FORM

Week ending: .....

	Procedure	Mon	Tue	Wed	Thu	Fri
a.m.	Wipe benches					
	Flush waterlines					
	Change pre-soaking solutions					
	Collect waste					
	Collect amalgam					
p.m.	Flush suction unit					
	Collect soiled linen					
	Empty secretions filter of suction unit					
	Check ultrasonic cleaner for efficiency					
	Change ultrasonic solutions					
	Clean steam steriliser					
	Drape surgery at the end of the day					
	Check ultrasonic unit daily					
	Clean and tidy drawers					
	Clean and tidy cupboards					
	Check resuscitation equipment					
	Check packaging weekly					

	Maintain suction unit at regular intervals					
	Review waste systems yearly					
	Steriliser wrapped cycle has been revalidated every 12 months					
	Steriliser thermocouple has been recalibrated every 12 months					

PROCESSING OF RE-USEABLE EQUIPMENT [INSTRUMENT RECIRCULATION CENTRE (IRC)]

Reprocessing of Instruments and Equipment

Handling used items from the treatment room to the INSTRUMENT RECIRCULATION CENTRE (IRC)

The instrument recirculation centre (IRC) is effectively organised to decontaminate and process potentially infectious instruments, devices and other items.

The IRC:

- provides for efficient organisation and storage of infection control equipment and supplies;
- provides an area out of the normal flow of patient treatment for processing contaminated items therefore minimising the potential for cross-contamination between treatment and non-treatment areas within the dental practice;
- is carefully designed and managed to effectively reduce the numbers of microorganisms invading other areas. The flow pattern of instruments through the IRC prevents mixing of contaminated and non-contaminated items (see Flow pattern for sterilisation of instruments). and refer to AS/NZS 4815/2001 figure 1.1;
- provides for maximum protection for office personnel and patients by effectively minimising contact with contaminated instruments, particularly “sharps”, by those not involved in instrument recirculation;
- increases the efficiency of staff and reduces the risk of injury by adhering to a prescribed traffic flow of instruments through the IRC;
- provides for the separation of contaminated items and objects, from those items which have been sterilised or disinfected, including one-use disposable items and objects, which are to be used or reused in patient treatment (i.e. separate clean from dirty); and
- obscures unsightly items and objects from patient view.

INSTRUMENT recycling

In order to ensure instruments are properly sterilised, the procedure to sterilise is dependent on a number of steps. The management of instruments is divided into a number of steps known as the instrument circulation cycle:

- Cleaning;
- Inspection;
- Drying;
- Assembly/preparation of packs and kits;
- Packaging into cassettes or packages;
- Loading;
- Correct choice of sterilisation cycle;
- Parametric release/routine monitoring/unloading;
- Cooling;

- Storage; and
- Distribution- sees preparation of clinical areas.

Preferably wipe all items immediately after use while in the surgery. This prevents adherent substances and materials sticking to the instruments. Explorers, periodontal curettes, scalers and endodontic files are wiped with a sponge placed in a protective holder to prevent injury; and
During treatment, instruments are to be continuously assessed for cleanliness and organised on trays for ease of pickup. Avoid messy trays. During treatment continually try to separate clean instruments from dirty instruments.

Also ensure that waste created is disposed appropriately in the surgery using the concept of waste segregation of our Waste Disposal Policy. Biohazardous items, and sharps are to be placed in the appropriately marked containers.

Instrument Circulation Cycle

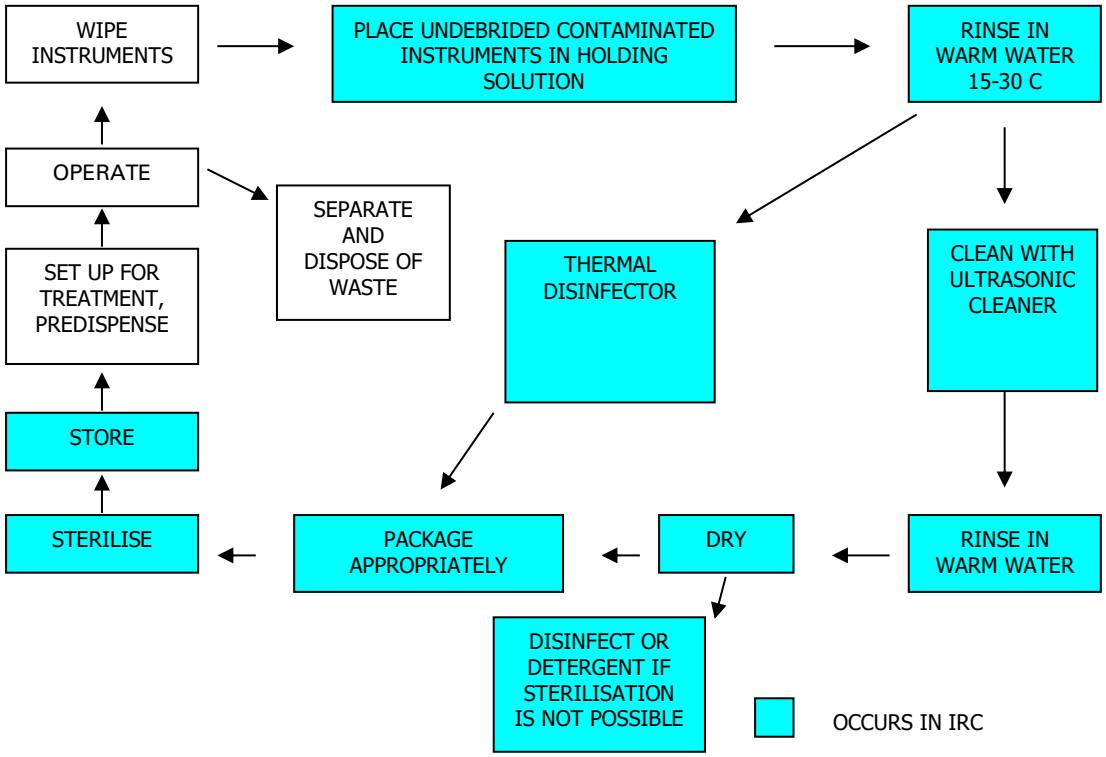
Sterilise ALL INSTRUMENTS that will not be damaged by heat in a steam steriliser.

All procedures completed in the instrument recirculation centre must be:

- repetitive and reproducible;
- efficient;
- disciplined; and
- complete.

Flow pattern for the sterilisation of instruments

The diagram below shows the flow pattern for instruments through their various stages in the IRC. This highlights the one-way traffic path.



Clean and inspect the instruments

Following treatment when the patient has left the room, the chair side assistant is responsible for collecting reusable items onto [e.g. Used instrument tray] for transfer to the IRC. Contaminated instruments, devices and other materials are handled with care while personal protective equipment remains in place. Items should be transferred from the surgery to the IRC in puncture resistant and leak resistant containers.

Items that are designed for single patient use are not to be reprocessed, and are disposed of after use. Disposable items are placed in appropriate waste containers, depending on their contamination.

Cleaning of instruments and equipment in the IRC

Before sterilisation or high-level disinfection, thorough cleaning of instruments is required. It is preferable to have the instruments clean when they leave the surgery.

1. Pre-soaking of instruments in a holding solution is an exception rather than the rule for those items not cleaned prior to leaving the surgery.
2. If not cleaned in the surgery, the instruments should be rinsed to remove blood and gross debris using warm running water;
3. They are then cleaned in an ultrasonic cleaner or mechanical cleaner (thermal disinfector);
4. On completion of the cycle, inspect the instruments. Effective cleaning ensures that instruments and equipment are clean to the naked eye (macroscopic) and free from any protein / biological residues and other stains;
5. Any debris remaining on the instruments is removed by thorough scrubbing with detergent and water. Steam sterilisable brushes are used for this purpose. Brushes should be washed and steam sterilised after each use. Special bur brushes are used for burs, and sponges in rigid containers are used to clean pointed instruments. Hand-scrubbing is minimised at every opportunity. When hand-scrubbing is required, it is performed after the items have been first ultrasonically cleaned, in a sink specified for this purpose. Hold the items low in the sink to limit the generation of aerosols during scrubbing. When cleaning lumened or hollow instruments such as a suction tip, utilise a stilette or lumen brush to ensure the lumen is free of debris. These instruments are sterilised after use. Use warm water to clean and rinse the instruments; and

HEAVY-DUTY GLOVES, SAFETY GLASSES AND PRE-SOAK:

Heavy-duty gloves are used and stored solely for the purpose of cleaning instruments and equipment in the IRC. Safety glasses are also worn.

Use a non-rushed approach to prevent injury.

Ultrasonic cleaners

While ultrasonic cleaners aid in cleaning before sterilising, they do not sterilise!

The ultrasonic cleaner is used in the following manner:

- Prior to use at the beginning of the day, or after the solutions have been changed the ultrasonic unit is degassed by running the unit for the specified period with no instruments. The functioning of the ultrasonic cleaner should also be checked. (See below);

- The water tank is filled with cold or tepid water and an appropriate amount of the recommended detergent intended for ultrasonic use is added. Operate the machine to degas the solution;

- Blood and other visible soil are rinsed off before immersing the instruments in the water tank; and

- Place the opened instruments in a basket which preferably has a solid base and perforated sides. The basket is submerged in the water tank, the lid closed, and the cycle commences. After the specified time, the instrument basket is removed and the instruments rinsed of all soap and other debris under gently flowing clean warm-to-hot water. Separate items during rinsing to assure more effective removal of debris and cleaning solution. The debris and solutions which remain on instruments during the sterilising procedure may cause residual stains. The cleanliness of all items is visually inspected. Any evidence of inadequate cleaning indicates the need for hand scrubbing. Take care to prevent the splashing of water.

Change the contaminated ultrasonic cleaning solution at least daily on busy days

Use only chemicals / solutions recommended by the manufacturer for ultrasonic cleaning. Change the solution at least daily or when it appears cloudy or visibly soiled . At the end of each day, the ultrasonic tank must be left empty and clean with the lid off to allow drying.

For occupational health and safety reasons the following precautions are observed:

- Ultrasonic cleaners must be operated with lids closed, so that high sound frequency does not cause damage to hearing. This is also done to prevent emission of aerosols;
- No part of the operator’s body should be submerged into the water tank during operation; and
- Use the ultrasonic cleaner in a ventilated area.

The functioning of the washer/disinfector cleaner is checked every day by Chris Brownjohn to ensure continued efficiency.

Inspection

Following the rinsing process, items are again inspected to make certain they are clean. If not, they are either recycled in the ultrasonic cleaner or hand scrubbed. It is safer to hand scrub at this point in the procedure, after ultrasonic cleaning, than before the cleaning process, because much of the debris and some contaminants will have been removed/destroyed in the cleaner. Instruments and equipment should be free from detergent and rinse additive residues after the cleaning process. Check for detergent or rinse additive residue to establish the efficacy of the final rinse process. Monitor the cleaning process by visual inspection.

Assembly/preparation of pack and kits

The various instrument kits are assembled. The contents of the kits are listed in our procedural instrument list.

Packaging of instruments

Instruments can be placed into cassettes or bags. Cassettes can be wrapped if the items are required to be sterile at the point of use. Cassettes which are not wrapped are regarded as sterilised to prevent cross contamination but not sterile at the point of use.

Surgical instruments are packaged prior to sterilisation so as to remain **sterile in the packaging**, i.e. the instruments are packaged in suitable semi-permeable wraps, bags or other containers, in such a way as to maintain the sterility of the instruments and allow the instruments to be sterile at their point of initial use.

When loading bags, caution should be exercised not to perforate the bags with sharp-pointed instruments.

When writing on the bags, use a felt tipped marking pen to label the contents, rather than biro or pencil.

Bags (pouches) and wraps should be self-sealing or should be carefully sealed with tape or a heat sealer. STAPLING IS NOT ALLOWED. If a heat sealer is used, ensure the heat sealer is functioning effectively.

For larger packages, use a disposable wrap.

If a Class 1 chemical indictor **sterilising indicator tape** is used, the tape must have the name of the manufacturer, batch number and date (month and year) of manufacture clearly marked on the core.

Where sterilising indicator tape is used to seal a bag, sequentially fold over two or three times the open edge of the bag prior to taping across the entire folded edge with one continuous piece of tape extending across at least 25 mm around the back of the bag on both sides.

Then label the sealed containers with their contents (if not visible through the pack or bag), date of sterilisation and batch control identification number as appropriate. Use a non-toxic, solvent based felt-tipped marking pen.

Monitoring of the packaging process includes checks for:

- integrity of the outer wrap;
- integrity of seals; (i.e. seal along designated dotted line on pouches to ensure all sides are sealed)
- correct labelling (including the date of sterilisation, batch number); and
- correct colour change of the external chemical indicator.

Then label the sealed containers with their contents (if not visible through the pack or bag), date of sterilisation and batch control identification number as appropriate. Use a non-toxic, solvent based felt-tipped marking pen.

Monitoring of the packaging process includes checks for:

- integrity of the outer wrap;
- integrity of seals; (i.e. seal along designated dotted line on pouches to ensure all sides are sealed)
- correct labelling (including the date of sterilisation, batch number); and
- correct colour change of the external chemical indicator.

BATCH CONTROL IDENTIFICATION

This process link steriliser batch information to a critical item used on a patient. As these surgical instruments need to be sterile at the time of use, their sterility must be safeguarded. Each critical pack must have batch control identification which must designate the following:

- Steriliser identification number or code (if there is more than one steriliser within the office-based health care facility);
- Date of sterilisation;
- Cycle or load number.

The manufacturer's batch/lot number of any commercially prepared implantable materials should also be recorded.

This information is transferred from the pack to the patient record.

STERILISATION CYCLE OF INSTRUMENTS AND EQUIPMENT

Sterilise all hand instruments and handpieces between patients.

Also sterilise instrument cleaning brushes and bur brushes after each use.

Sterilisation in a steam steriliser provides the most reliable and effective method of destroying

potentially infectious microbes on instruments and items that may have become contaminated with potentially infectious microorganisms.

The following observations are made about sterilisation:

- AS4815 has distinguished the sterilisation cycle of the steriliser as only a part of the sterilisation process;
- AS4815 explains that sterilisation is a 'special' process that must be validated. Validation is a documented procedure for obtaining, recording and interpreting the results required to establish that a process will consistently yield a product complying with predetermined specifications;
- Validation consists of two main activities-commissioning and performance qualification, i.e. the steriliser works and is appropriate for the load to be sterilised; and
- Certain processes used in the manufacture of health care products are considered to be 'special' (as described in the AS/NZS ISO 9000 Series of Standards) in that the result cannot be fully verified by subsequent inspection or testing of the product. Sterilisation is an example of a special process because efficacy cannot be verified by inspection or testing of the product. For this reason, the sterilisation processes must be validated before use, the process routinely monitored and controlled, and the equipment maintained. (from AS/NZS 4187:2003).

Steam Sterilisers

Additional information available from the “Records and Data Collection for Steam Sterilisation”.

Steam sterilisers provide a simple, dependable, cost effective method to sterilise heat-tolerant dental instruments. Steam at a required temperature and pressure for a specified time is required to kill microorganisms and spores.

There are 2 main types of sterilisers in Australia – classified by the method of air removal. These are gravity (downward) displacement sterilisers and vacuum extraction sterilisers. Downward displacement sterilisers (which run Class N cycles) use a system whereby water is often placed in the chamber either manually or mechanically. As the chamber heats the steam produced rises to the top, 'downward displacing' air out through a drain. Trapping of air is a major concern. Items or instrument or parts thereof not exposed directly to the saturated steam may not be sterile. These types of sterilisers were developed for solid instruments (dental mirrors and probes) rather than hollow items (handpieces and suction tips). It is suggested they be used only for solid items. They may not be used for wrapped loads unless special provision has been made – i.e. by using an assisted air technology.

With downward displacement sterilisation, hollow items need to be loaded into the chamber at an angle or vertical to allow the air to be displaced downwards and out. A hollow item laid horizontally can potentially trap air and result in cool pockets preventing the items from being sterilised.

Pre-vacuum sterilisers (which run B and S cycles) are fitted with an external steam generator and vacuum pump. The pump removes air and creates a negative pressure within the chamber which allows saturated steam to be injected into the chamber. This ensures much better and faster steam penetration and is better suited for 'hollow' instruments. Pre-vacuum sterilisers cost more to run for a number of reasons. Often they do not recycle their water supply and need high quality water to be continually replenished. In a busy dental practice this will mean a substantial supply of water (20-40 litres) every week. They also require specific daily testing to monitor the air removal system. Due to these specific requirements they can take 30-60 minutes each morning before the first 'live' load is sterilised ready for use. The cycle times for these sterilisers also tend to be on the longer side compared to the downward displacement sterilisers. Cycle times of 30 to 40 minutes are not uncommon. The type B cycle allows the sterilisation of wrapped and non-wrapped, solid, hollow (type A) items. Type A hollow loads are loads with cannulas and lumens such as handpieces. Type B hollow loads have larger “hollows”, such as cups.

Validation of the sterilisation process

In order to ensure appropriate sterilisation of items in the surgery a concept known as **validation of the sterilisation process** is undertaken. The procedure involves a series of checks and challenges which reflect how you perform the sterilisation task in your practice. The sterilisation of loads within the steriliser (sterilisation cycle) - although important - is only part of this process. In order to ensure the items are sterilised the function of the steriliser must be checked.

The validation process involves the following steps:

1. **Commissioning (Installation Qualification and Operational qualifications)**
    - Commissioning report includes installation documents and operation verification. This is performed by the service technician when new sterilisers are installed in the practice.

2. **Performance Qualification**
    a. Physical Qualification (by a qualified salesperson):

    - Calibration report on thermocouple (12 monthly); and
    - One–off chamber/heat distribution report and penetration report which checks the physical attributes of the steriliser.

    b. Microbiological Report to confirm microbiological lethality of the steriliser (using spore tests).

3. **Validation Report**
    - summarises satisfactory completion of commissioning and performance qualification.

Routine monitoring of the steriliser

A steriliser running wrapped loads under previously validated times and that has a printer, data logger, or computer downloads and records at a minimum of every 60 seconds (or equivalent - some sterilisers, note the maximum and minimum parameters of each cycle), requires only the use of Class 1 indicators on every packs or within every cycle of unwrapped instruments. The Class 1 indicator indicates whether the item has passed through the steriliser but not the quality of the process.

Class 1 process indicators do not prove sterilisation.

The printout must be checked and signed (not initialled) if correct and then stored. If the steriliser has no printout, a Class 4, 5, or 6 chemical indicator is required in addition to a Class 1 indicator in each load and the gauges must appropriately monitored at intervals of a minimum of every 60 seconds.

Current recommendations for steam sterilisers include:

- printer readout;
- door remains closed after sterilisation is complete;
- pre-vacuum if possible for type A hollow items;
- drying cycle to prevent condensation;
- must meet the requirements of AS 2192,7 AS 14108 or AS 21829; and
- be operated according to AS/NZS 4187 and AS/NZS 4815.

Daily tests

Pre-vacuum type sterilisers will require additional tests including air removal/steam penetration test (e.g. Bowie Dick Type or Helix test) and air leak rate test. Use a Bowie Dick type test for porous loads and a Helix test for hollow and other loads in a pre-vacuum steam steriliser.

Perform an air leakage test and air removal test daily on a pre-vacuum steam steriliser. Perform these tests at the beginning of the day.

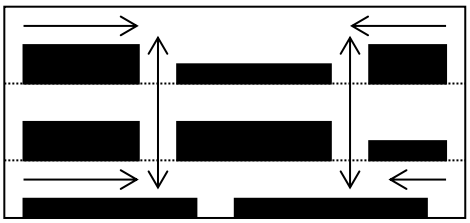
Loading of sterilisers

General

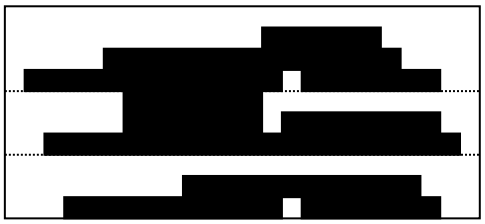
Correct loading of sterilisers is essential for successful sterilising, for several reasons. Efficient air removal from the chamber and the load will permit total steam penetration and saturation and allow proper drainage of condensate. Additionally, correct loading will reduce damage to packs and their contents and maximise efficiency of the steriliser.

Every load of a steam steriliser has a class 1 process indicator to indicate the load has been heated.

Instruments are separated to prevent stratification (trapping of air that acts as insulation, thereby retarding sterilisation). The correct and incorrect ways to load a steam steriliser are below. Instruments with cavities (lumened instruments) are tilted to assist air drainage from the cavity, and prevent condensation from forming and failing to drain from the cavity.



CORRECT – ALLOWS AIR FLOW



INCORRECT – BLOCKS AIR FLOW

Loading of portable (bench top) downward displacement and pre-vacuum sterilisers

Items prone to entrap air and moisture, e.g., hollow ware, must be tilted on edge so that only minimal resistance to air removal, the passage of steam and condensate will be met.

Items are loaded within the boundaries of the chamber so that they do not touch the chamber walls.

Packs of hollow items and trays of instruments are not to be placed above textile packs or soft goods in order to avoid wetting caused by condensation from items above.

Items packed in flexible packaging materials (pouches) may be loaded on edge with paper against laminate, or flat with the paper surface downwards. Load trays loosely to capacity.

Closed non-perforated containers do not allow steam penetration and are not suitable for use in steam sterilisers.

Unloading of sterilisers

On completion of the cycle, the load is immediately removed from the steriliser and a visual inspection made to ascertain that the load is dry, and that sterilising indicators have made the required colour change. Declaring a product sterile, based on the records demonstrating that the process parameters have been met is called **parametric release**.

Directly after the sterilising process, items are vulnerable to recontamination by moisture, splatter, tearing of the package, or improper handling. Therefore follow the procedures below:

1. Prior to the removal of the load, the operator checks process indicator, recording charts or printouts. The operator signs the designated record sheets where such sheets are present, to indicate that the required parameters have been met, or notifies

Dr Gary Verdickt if failure of any parameter is detected.

2. Do not cool items by fans or boosted air conditioning.

3. Cooling items are <u>not to be</u> placed on solid surfaces, as condensation from vapour still within the pack may result. The items should be placed on a raised surface which is ventilated below, e.g. a cake rack.

4. Packaged or unpackaged items that have been dropped on the floor, compressed, torn, have broken seals, or are wet, are considered contaminated and are to be reprocessed.

Steriliser Indicators and Monitors

Chemical indicators can help monitor the sterilisation process by providing information about the steam quality and the exposure time if the indicator is chosen carefully. Indicators come in many shapes and sizes, and with many different capabilities. Some just provide the minimum amount of information and some provide a wealth of information.

Two features of all indicators are their timing (when they change colour during the cycle) and their transition period (how abruptly they change colour). Timings of three different types are available: short, medium and long. Short timing indicators are found on the outside of packages and are used to distinguish packages, which have been through the steriliser and those, which have not. Medium timing indicators are placed inside of packages, next to the instruments themselves, and tell if a biological indicator would have been killed. Long timing indicators are placed inside of packages next to the instruments and tell if one-million-to-one conditions were met.
Indicator transition periods can be short or long. Short transition period indicators tend to change colour abruptly. When the user reads them, they tend to appear completely changed or not completely changed. The chance that the user will see an indicator that is in the middle of its colour change is fairly remote since the colour change occurs abruptly. Longer transition period indicators change colour more gradually and therefore the user has a greater chance of seeing an indicator that is in the middle of its colour change. This can sometimes cause confusion.

Another feature of some indicators is their ability to describe steam quality. If the steam is of poor quality the indicator will look different. Poor steam quality negatively affects the sterilisation process.

All of the features mentioned above are referred to as “parameters” in the most recent chemical

indicator standards. Those standards are based upon the ISO 11140-1 classifications. The details are as follows:

Indicator timing is referred to as Stated Value (SV). If the SV is 1.8 min @ 134°C the indicator should change colour at the 1.8 minute point (biological kill point) in a 134°C steam sterilisation cycle. If the SV is 3.5 minutes, the indicator should change colour at the 3.5-minute point (Sterility Assurance Level of 10-6)

Class 1 Process Indicators are used on the outside of packages to show if they were exposed to the sterilisation cycle or not. Process indicators do not prove sterilisation. Process indicators verify ONLY that items being cycled have been heated. The main function of a process indicator is to prevent inadvertent operator error by not cycling a load through the steriliser.

Class 2 Specific Test Indicators are used to determine special conditions such as effectiveness of air removal in pre-vacuum sterilisers.

Class 3 Single Parameter Indicators are used as the most basic internal indicator that give limited single point information such as temperature only.

Class 4 Multi-Parameter Indicators are internal indicators with multiple points of information such as time and temperature or time, temperature and steam quality. The transition period is rather large.

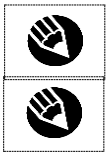
Class 5 Integrating Indicators are multi-parameter indicators with timing at the BI kill point and a medium size transition period. These indicators are designed to react to all critical parameters over a specified range of sterilisation cycles.

Class 6 Emulating Indicators have timing at the 10-6 S.A.L. point and the narrowest transition period.

The specific tests and test frequencies for each type of steriliser include.

Steriliser Type	Specific Tests	Test Frequencies
Class B	Helix, Bowie Dick	Weekly

Maintenance of Equipment



MAINTENANCE OF STERILISERS:

The **steam steriliser** is calibrated and the process validated at least annually as determined by a technician from: Pegasus

Dental A log book maintains a record of any servicing and validation of the steriliser. The log book is kept in the IRC.

Every day the steriliser should be continually monitored. The dental assistant checks that:

- the floor of the steriliser is free of debris;
- the chamber drain filter is clear;
- the graphs and pens and other printouts are functioning correctly;
- all gauges and timers are functioning correctly;
- if visible, the door gasket is undamaged; and
- external surfaces are damp-dusted weekly.

The internal walls of the steriliser are to be cleaned, when cool, at least weekly, according to the manufacturer's instructions.

STERILISER INSTRUCTIONS AND CLEANING:

The manufacturer's instructions for the **steriliser** are kept in the IRC.

NOTE: The discolouration found inside sterilisers is a film of mineral salts from the steam lines, precipitated out onto the steel surfaces. Mineral salts are more easily dissolved in an acidic solution than neutral or alkaline solutions. Use deionized or distilled waters to minimise these precipitates.

Steriliser maintenance records

A record of mechanical testing, repairs and preventative maintenance must be kept for each steriliser. This information must be kept for 7 years.

Date	Steriliser	Servicing Agent

Steriliser indicators and monitors

The procedure for dry heat is as for steam sterilisers, ensuring that the appropriate indicators and monitors are used. Printers can be installed for dry heat sterilisers.

Storage of Sterilised items

After completion of the sterilisation process, cycled trays, bags, wraps or other packages are stored intact and unopened in secure dry cabinets and drawers until ready for use. These are located in the surgery area away from the IRC.

Dental Hand Pieces

Handpieces are oiled using the Assistina before sterilizing according to the manufacturer's instructions.

Hinged instruments

Pay special attention when cleaning hinged instruments to try to prevent accumulation of debris in the hinges. Clean these instruments in the open position. Instruments with hinges and ratchets must remain open and unlocked when being sterilised. Also pay special attention to remove debris from any grooves in the instrument.

Suction units (aspirators, evacuators)

Any cleaning or maintenance is carried out after rinsing the unit with a non-foaming detergent as recommended by the manufacturer.

After every surgical operation or very long operations and at least after every working day, the pump and the piping are rinsed with a non-foaming detergent-disinfectant

Clean the outer surface of the tubes daily with detergent.

Mobile suction units contain a bottle which is filled with the non-foaming detergent before use. Empty this detergent first before using the suction units. Empty this bottle daily whilst wearing examination gloves. If the bottle becomes full, it is emptied more than once a day. A cut-out mechanism is pre-set to shut off the suction unit to prevent overflow of the bottle. Dispose the bottle contents into the sewerage system.

The secretions filter is checked weekly by Chris Brownjohn. Solid waste is removed from the secretions filter and disposed of with biological waste, except for amalgam, which is disposed of according to the waste disposal policy. Examination gloves must be worn during this procedure. After cleaning the suction system, remove the filter, ensuring there is no spillage. Filters are disposable and replaced weekly.

Disinfectants

Generally, chemical disinfectants are not recommended.

Keep the use of disinfectants in the surgery to a minimum.

DISINFECTANTS – GENERAL CLEANING:

General cleaning and decontamination is undertaken with a detergent and wiping.

The brand of **detergent** for general cleaning used is Dentalife.

Detergent is also used to wipe large items and heat labile items. Preferably lint free cloth or high quality paper towel is used to wipe off the detergent.

Summary

The following diagram is an example of an IRC showing separation of dirty, clean and sterile areas. The flow pattern indicates:

Dirty:

- Pre-cleaning area (including thermal disinfection); and
- Ultrasonic region/instrument washer.

Clean:

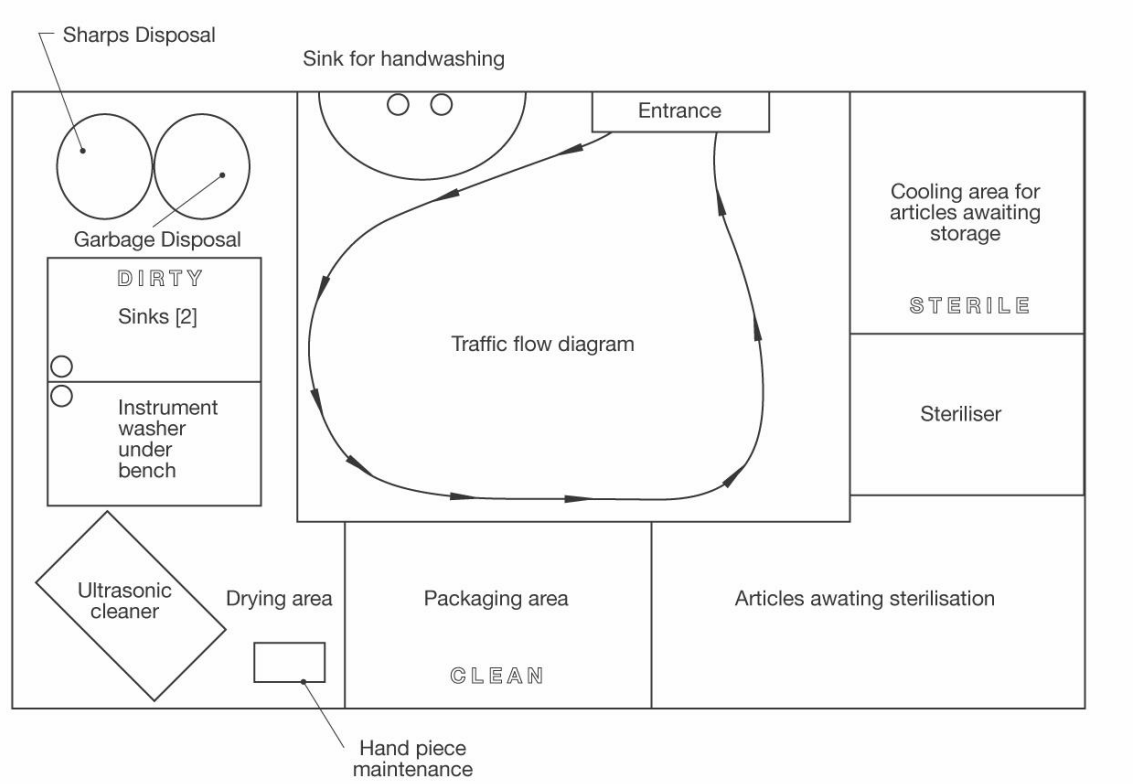
- Drying area;

- Packaging area;
- Articles awaiting sterilisation; and
- Steriliser.

Sterile:

- Cooling area for articles waiting storage; and
- Storage region.

The dirty, clean and sterile areas are physically marked in the IRC to prevent confusion in the IRC.



REPRODUCED FROM "CLEANING, DISINFECTION, STERILISATION. A GUIDE FOR OFFICE – BASED PRACTICE" [LOCHEAD L (2004)]

WASTE MANAGEMENT

Dr Gary Verdickt, Endodontist aims to:

- minimise total waste, through recycling and improved purchasing techniques and
- minimise the amount of sharps and infectious waste.

Towels, masks etc. should be in the general waste unless they are blood-contaminated (saliva is acceptable in general waste).

Cups and gloves should all be in the general waste, rinsed of blood.

Amalgam should not be in the infectious or sharps waste, as amalgam releases mercury when incinerated. This includes all extracted teeth, and all disposable amalgam filters and used amalgam

capsules (even if amalgam is not visible). Teeth should be rinsed free of visible blood, wrapped in an impermeable barrier, for example, a rubber glove or plastic wrap, and then placed into the municipal waste disposal stream provided that it does not involve incineration.
Plastics and gloves made from PVC should not be in infectious waste, as incineration may release potentially harmful gases.

Be alert for items that could be recycled.

Sharps waste	Infectious non-sharp waste	General waste	Recyclable items	Pharmaceuticals
All disposable items that could inflict a penetrating injury including: ▪ needles, scalpel blades, glass, burs, glass anaesthetic cartridges, matrix bands, orthodontic wires, stainless steel crowns and offcuts, endodontic files and reamers ▪ broken instruments. (needle sheathes can be disposed of in the general waste to decrease sharp waste contents)	**All non-sharp waste that is contaminated by blood** including: ▪ all blood-stained waste; human tissue, other than extracted teeth;	**All waste other than sharps or infectious non-sharps** including: ▪ waste that can be washed free of blood, e.g. gloves, rubber dam, cups; ▪ firm plastics, which may be made of PVC and should not be incinerated ▪ extracted human teeth, washed and discarded in a glove	**Dental items**: ▪ amalgam, ▪ used fixer and developer, ▪ unwanted radiographs, ▪ lead foil from radiographs **Non-dental items**: ▪ paper, cardboard ▪ glass, plastic ▪ cans	**All unwanted pharmaceuticals** are removed from their original containers

The following methods are used to manage waste:

Sharps Management

Definition:	All items capable of inflicting penetrating injury. Sharps in this practice include: needles, scalpels, endodontic files and burs.
Handling:	The user is responsible for disposal **No sharps are to be transferred between people.** Use safe waste handling procedures.
Spill Protocol:	Do not leave a spill unattended. Replace sharps in the sharps container with tongs or artery forceps. Report spill to Dr Gary Verdickt

Containment:	Sharps waste and soft infectious waste are sometimes stored together in rigid appropriately marked containers. Do not fill sharps containers past the full mark. **Yellow containers** with the biohazard symbol are located in the Surgery and IRC.
Storage pending collection:	Once the container is full: ▪ close lid securely ▪ tape the lid down ▪ store, until collection, in the secure area located under bench in Surgery where it is collected by the contractor. The person responsible for moving waste is Dr Gary Verdickt.

Soft Infectious Waste Management

Definition:	Visibly blood-stained, non-sharp waste. Infectious waste in this practice includes: blood packs, bloodied cotton rolls, other bloodied items not easily rinsed.
Handling:	Sort waste at the chair side as dental care is provided (dispose in suitable container at point of use). There will be two containers for each patient treated, one for the disposal of infectious waste which may include sharps and one for general waste. (If sharps are included the container must be rigid.) Do not use body parts (e.g. hands, feet) to compress waste. Apply **safe waste handling procedures**.
Spill Protocol:	Use artery forceps to place all items in the yellow infectious waste bag. Blood spills: using examination gloves, remove blood with absorbent material, place in infectious waste.
Containment and storage pending collection	Soft infectious waste is emptied after each patient by Dental Assistant into a sharps container.

Note*:* Chemical disinfectants, sterilising solutions, blood and saliva can be disposed of in small quantities into the sewerage system. Dilution with water can reduce potential risk in treatment plants.

General Waste Management

Definition:	All non-infectious non-sharp waste, other than the items specified for recycling in the above Table All waste other than sharps or infectious non-sharps, **including:** ▪ waste that can be washed free of blood, e.g. cups with the blood rinsed off; ▪ firm plastics, which may be made of PVC and should not be incinerated; and ▪ extracted human teeth, which should be washed and buried under setting plaster in a cap or wrapped in a glove to be discarded in the general waste. This avoids the incineration of heavy metals in amalgam.
Handling:	General care, no compression with hands or feet. Use heavy-duty gloves. Wash hands thoroughly after handling. Apply safe waste handling procedures.
Spill protocol:	Use heavy-duty gloves to replace waste into bins.
Containers:	Surgery and office bins are lined with plastic lining bags and are located near the IDC. The bags are changed daily or more often if full.
Storage pending collection:	Remove bags from clinical areas, tie to secure, and place in the general waste, located in the garbage disposal area of 61 Glencoe St. The staff member responsible is Chris Brownjohn.

Recyclable dental waste

Containers	**Amalgam** - excess from restorative procedures - from old restorations - from cleaning filters	**Fixer** - used **Developer** - used	**Radiographs** - out of date or unclear	**Lead foil** - from radiographs
Handling	- Plastic or glass, - spill resistant, - leak proof, - securely closed, - puncture resistant - labelled 'waste amalgam' with safety instructions. **For disposal** - cover surface of amalgam with used radiographic fixer. **For recycling** - follow recycler's directions	A separate container for each that is: - plastic - leak proof, - securely closed, - puncture resistant, - labelled with contents and safety instructions.	A used tissue or glove box near the developing area	A used tissue or glove box kept near the developing area will last about one year.
Disposal	Handle with gloves.	Take care not to spill or splash. Use gloves and safety glasses.	Handle with gloves	Handle with gloves
	Collection is needed only every few months or less. This may be able to be organised through your regular infectious waste collector,			

MANAGEMENT OF BLOOD AND BODY FLUID SPILLS

Risk Management principles must be understood by all staff.

- Keep the environment safe at all times for patients and staff.
- Traffic areas should remain clear, with equipment and supplies stored in their designated location.
- Familiarise staff with all work practices, which remain constant unless prior notice is given of any change. These changes are listed in the Amendments to SOP form. The handling of instruments and materials in an agreed routine manner is recognised as the best prevention of accidents.
- Always locate containers for sharps, segregated waste and contaminated instruments in the same place for easy access.

Needlestick and blood accidents

- If the skin is broken, wash the area well with soap and water (Use alcohol based hand rinses or foams 60-90% alcohol by weight are to be used when water is not available).
- If blood gets on the skin, irrespective of whether there are cuts or abrasions, wash the area well with soap and water.
- If the eyes are contaminated, rinse gently but thoroughly with water or normal saline, while the eyes are open.
- If blood gets in the mouth, it is spat out and then rinse the mouth with water several times.
- After taking the above immediate action, report the incident to the practice principal, and an entry is made in the Accident Record, detailing:

  - date and time of exposure;
  - how the incident occurred;
  - name of the injured worker and source individual (if known);
  - any action taken;
  - action taken to prevent similar incidents occurring; and
  - see form 1.4.3 'Accident Record'.

Following a needle stick or blood accident, the risk of the affected staff member contracting a communicable disease such as HIV, hepatitis B or C must be assessed where practical by a suitably trained health care worker such as an infectious diseases physician. The staff member is then managed appropriately.

Prophylaxis may be offered on the basis of the risk of infection associated with the injury or exposure. The risk assessment will determine if Post Exposure Prophylaxis (PEP) is warranted.

The person to call to assess risk is Dr David Givney.

Management of Spills

Standard precautions are applied where there is a risk of contact with blood or body substances, and protective clothing is worn.

Ensure the area is left clean and dry after any spills have been managed.

When a spill occurs on a carpet, shampoo the carpet as soon as possible and do not use disinfectant.

Spot cleaning

SPOT CLEANING:

Wipe up spot immediately with a cloth, tissue or paper towel and detergent.

Disposable wipes are placed in the designated waste disposal container. Cloths are appropriately stored and then laundered.

Small spills (up to 10cm)

SMALL SPILLS (up to10 cm):

Collect cleaning materials and equipment.

Wear disposable gloves, eyewear and a plastic apron (where there is a risk of splashing occurring).

Cover the spill immediately with absorbent material. Place the contaminated absorbent material into an impervious plastic bag for disposal in contaminated waste.

Clean the area with warm water and detergent using a disposable cleaning cloth.

REGISTER OF ITEMS AND SUPPLIES FOR INFECTION CONTROL

We have identified the following items and suppliers for those items required to fulfil the implementation of the Infection Control Systematic Operations Procedure Manual.

	Item	**Our supplier**
	Neutral pH hand washing liquid	Ark Health
	Antimicrobial soap/skin cleanser	Ark Health.
	Brushes – fingernail, steam sterilisable	Ark Health.
	Waterproof dressing	Ark Health.
	Gloves, nonsterile	Ark Health.
	Gloves, sterile	Ark Health.
	Gloves, utility	Ansell.
	Hand cream	Ark Health.
	Uniforms	Smile Dental Wear
	Protective staff gowns and aprons	Smile Dental Wear
	Patient wraps (gowns or aprons)	Kimguard, Halas.
	Sanitary laundry detergent	Ark Health.
	Staff protective eyewear	Halas / Bolle
	Patient protective eyewear	Halas / Bolle
	Masks, splash proof	Halas / Smith and Nephew.
	Synthetic rubber dam	Halas / Cranberry
	Rubber dam	Horsely / Cranberry
	Mucosal disinfectant	Ark Health /J&J
	Dental disinfectant	Ark Health
	A suitable detergent	Ark Health / Dentalife
	Disposable plastic barrier wrap	Ark Health
	Permanent marking pen	Officeworks
	Suction unit detergent	Halas / Pulijet
	Triple syringe tips	Ark Health.

	Enzymatic solution	Ark Health / Sonident
	Ultrasonic cleaner	Whaledent
	Ultrasonic solution	Ark Health / Sonident
	Steriliser bags	Ark Health
	Steriliser wrap	Halas / Kimguard
	Sterilising indicator tape	Ark Health
	Steam sterilizer	W&H
	Bowie Dick type test	Ark Health
	Steriliser tests supplier	Ark Health
	Non-foaming detergent for suction	Ark Health/ Pulijet
	Sodium hypochlorite	Ark Health / Endosure
	Impervious container	Ark Health

REVIEW OF Dr Gary Verdickt, Endodontist INFECTION CONTROL SYSTEMATIC OPERATING PROCEDURES MANUAL

This manual is reviewed yearly or amended when legislative or best practice infection control measures are introduced. The person responsible for the review is Dr Gary Verdickt.

All amendments are noted in amendments to systematic operating procedures form as a record. Our review process uses the Dental Board of Australia infection control check-list as an audit tool.

AMENDMENTS TO SOP FORM

SECTION AMENDED	WHERE PAGE REMOVED	WHERE PAGES ADDED	DATE SUGGESTED	DATE CHANGED	SIGNATURE