# DECONTAMINATION

Decontamination (the cleaning of instruments or equipment so it is ready for use again)

- **Disinfection** -(to remove unwanted chemical and biological impurities or toxins from an object, or place)
- **Sterilisation** - (To make an object 'sterile' by destroying all forms of micro-organisms, including; Bacteria, Viruses, Fungi and Spores)
- **Asepsis** - (when no living disease-causing micro-organisms are present)
- **Socially clean** - (a good level of cleaning. Appropriate for equipment not used in the mouth)

## Decontamination Procedure

After use every instrument and piece of equipment should be disposed of or decontaminated.
Decontamination is carried out as follows:

- A used instrument is taken to a sink/area for dirty instruments
- The first cleaning of the instrument takes place either by manual cleaning, ultra sonic bath or washer disinfector. {It is now better to carefully wipe instruments and place in an ultrasonic bath to remove debris then inspect and if still dirty then scrubbed in sink of hot water and inspect again. If instruments are scrubbed first there is a risk of spraying infected material into the surrounding air.}
- The instrument is then inspected, if there is visible debris the process is repeated, if not the instrument is placed into an autoclave for sterilisation

## Manual Cleaning

A sink **only** used for cleaning must be used for the cleaning of instruments
A thermometer ensures the water is between 35 and 40 degrees
PPE must be worn including heavy duty gloves
Use a nylon brush
Instruments should be washed under the surface of a sink full of hot water with a non foaming detergent
Instruments should be examined for debris before sterilisation

## Ultrasonic Bath

Carefully place instruments on tray to avoid sharp injury and place tray in bath

Use the manufacturer's instructions for the correct time and temperature
Use detergent recommended by manufacturer (low foaming)
Bath must be emptied twice daily
Empty, clean and dry the bath at the end of the session

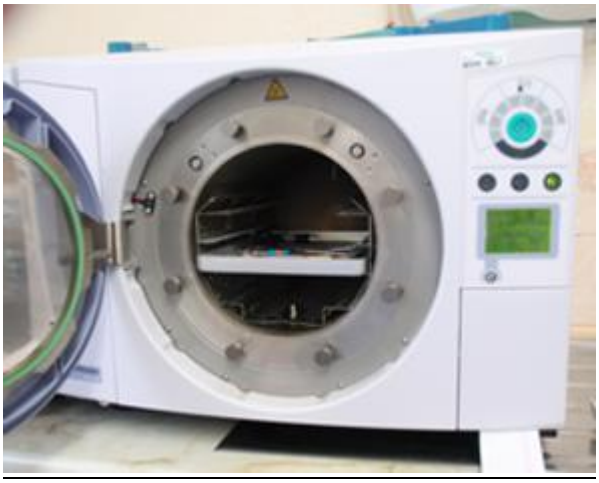
Use a bur basket for burs and small instruments – to save injury and to stop losing them through the mesh of the ultrasonic bath or autoclave.

**Inspection** is essential to ensure the instrument is completely clean before sterilisation. A bright light with magnifying glass should be used.

Trays used in the surgery must also be thoroughly cleaned and sterilised.

## Methods of Sterilisation

- Autoclave - Vacuum
  - Non Vacuum
- Gamma Irradiation
- Cold Sterilisation



Autoclaves Water is heated to create steam which inside a locked pressure chamber will reach 134 degrees centigrade – if this is kept for 3 minutes it will kill all bacteria viruses fungi and spores. The pressure reached is 2.2 Bar, (or 32 PSI or 206 kPa)

Some autoclaves have a printer that records the pressure and temperature to confirm that the sterilisation cycle has been completed correctly. If not a TST (Technical Sterilisation Test) strip should be placed in the autoclave each day to check it is working correctly
Purified water should be used and the water tank drained at the end of each cycle.
The door rubber seal must be kept clean.

## Gamma Irradiation

Industrial sterilisation used by companies to sterilise products before selling them to suppliers.
Any item that is 'pre – packed' e.g. Gloves, scalpels, sutures
This process leaves these items completely microbe free, and allows products to be used in aseptic techniques in the surgery

## Cold Sterilisation

This is a solution which is made up in the surgery and changed daily, Non – Glutaraldehyde/Sodium Hypochlorite/Chlorhexidine
Immersion for 10 mins = disinfection Used for impressions
Immersion for 10 hours = sterilistion
Instruments which can't be autoclaved, such as; Photo mirrors, some plastics, retractors

## Aseptic Techniques

Used for any Surgical Procedure where surgical gowns are required
Surgical hand wash required

## Instrument Storage

Unwrapped Instruments:
If placed dry into a drawer or instrument kit they are deemed socially clean and appropriate for non invasive procedures.

Wrapped Instruments:
As long as the wrapping is not damaged these instruments are sterile until used as long as that is within 6 months.