Surgical Aseptic Technique Improving Outcomes for Patients and Staff

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Disclosure Statement

I, Yvonne Fletcher, am an advisor with Hands-On Infection Control, an independent infection prevention consultancy, education and immunisation business

I have no financial interest/arrangements or affiliations with any organisations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation

Objectives

- Explain aseptic technique
- Define surgical aseptic technique
- Relate how good aseptic technique improves outcomes for patients and staff

ANTT® Clinical Practice Framework

ACIPC
Australasian College for Infection Prevention and Control

- Protects patents during invasive procedures
- Risk based framework
- Standardises clinical practice
- Applicable to variety of clinical settings (hospital to community)

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

The Need for AT

- Actual education and competency assessment widely been neglected
- Universal assumption that something commonly performed must be well defined
- Largely left to the subjective interpretation of individual HCWs
- Significant variability in understanding, interpretation, practice and effectiveness

The Need for AT

- Widely accepted that poor standards of AT are a fundamental cause of preventable healthcare associated infections (HAI)
- HCW is the main potential vector of microorganisms during invasive clinical procedures and maintenance of invasive medical devices
- AT recognised universally as an essential clinical competency

Aseptic technique (AT) – what is it?

- AT is an element of standard precautions
- AT is a set of practices that protects patients from HAI and protects HCW from contact with blood, body fluids and body tissues
- Involves appropriate hand hygiene, glove use, aseptic fields, environmental control, and sequencing

ANTT® Key Definitions

- **Aseptic field** – designated work area that contains and protects the procedure equipment from contamination
- **Key-Site** – a site on a patient that must be protected from contamination during an aseptic procedure.
- **Key Part** – parts of the equipment/item that come into contact with Key-sites. If contaminated during a procedure, may provide a route for transmission of pathogens onto/into the patient (infection risk).

Types of Aseptic Technique

Standard AT

- Technically simple procedures
- Short in duration (<20 min)
- Few key sites and key parts

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- **Surgical AT**
- Technically complex procedures
- Extended periods of time (>20 min)
- Large open key sites or large number
  key parts

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Procedures Requiring Surgical AT

In office-based practice:

- Large wound excisions/extensive wound dressing
- Difficult invasive procedures
- Procedures that penetrate a sterile body cavity
- Requires insertion of dressing material or a device into a wound sinus or cavity where the base cannot be entirely visualised
- May also be used for immunocompromised patients when risk assessment indicates

Elements of AT

- Environmental Control
- Hand hygiene
- Maximum barrier protection
- Aseptic field management
- Non-touch technique
- Sequencing
- Waste management
- Cleaning of equipment/environment

Environmental Control - Preparation

- Suitable environment
- Adequate working area
- Cleaning of the room, surfaces and equipment
- Decluttering!

Environmental Control – During procedure

- Movement and proximity of privacy screens/doors
- Other activities occurring in the close environment
- Number of people present, and movement

Hand Hygiene – Routine

ACSQHC Hand Hygiene Manual

Prior to	• **Cleaning the surface/trolley to be used** • **Collecting sterile equipment/supplies** • **Opening sterile equipment/supplies**
After	• Removing PPE at end of procedure • Disposing of waste and sharps • Cleaning the surface/trolley/equipment used

Hand hygiene – Surgical hand asepsis

- Surgical hand asepsis using a TGA registered skin disinfectant
  - Surgical hand scrub:
    - 5/3 minutes special technique using TGA approved skin disinfectants
  - Surgical Hand Rub
    - Alcohol based **surgica**l rub according to manufacturer's IFU
- Standardised procedure for all team members

Maximum barrier protection

- Hair cover
- Fluid resistant face mask, protective eyewear/face shield
- Sterile surgical gloves
- Sterile gown
- Sterile drapes

Critical Aseptic Field Management

- Only sterile items to be placed in the aseptic field
- **Prepared as close to time of use as possible, not left unattended**
- Package integrity checked before opening
- Handle items as little as possible
- Requires draping of the surgical site

Image: Alberta Health Serivces

Patient preparation

- Positioning
- Skin disinfection around the surgical site – TGA approved
- Administration of local anaesthetic
  - Before scrubbing or after?

Non-Touch Technique

- Even when sterile gloves are used, key parts and key sites should not be touched directly unless necessary

- Forceps, gauze, retractors

Sequencing

- Having everything you need readily available on the critical aseptic field, or close by for a non-scrubbed assistant to open.
- Ensure the flow of sterile supplies moves through a pre-determined route.

Waste Management

- Disposing of all waste, especially into the appropriate container at the end of the procedure.
  - Sharps
  - General

Cleaning of Reusable Equipment and Surfaces

- All reusable equipment to be cleaned and disinfected if required, e.g.:
  - Trolleys
  - Work benches used
  - Diathermy machines
  - instruments

Education and Training

All clinicians who perform procedures requiring aseptic technique should undertake training and competency assessment:

- Medical practitioners
- Nurses
- Podiatrists
- Dental practitioners
- Dental assistants
- Phlebotomists

Who else?

AT Competency Assessment

Must be performed by a clinician who has been deemed competent themselves!

Common Non-Compliances

- When we undertake IPC audits involving AT we often see non-compliances/areas for improvement.
- These contaminate the key sites and / or key parts.

Outcome?

- **Increased risk of HAI for the patient**
- **Increased risk of contact with blood, body fluids or body tissue for staff**

Non-Compliance #1

- **Equipment not maintained in a sterile manner**

Photo’s HOIC

Non-Compliance #2

- **Inadequate/inappropriate workspace**

Photo's HOIC

Non-Compliance #3

The one minute/little finger rule:

- When you need an additional item *and use your little finger* to open drawers, cupboards etc and obtain the item (with fingertips).
  - Contaminates your hands
  - Contaminates the non-sterile surfaces/items touched
- Need to remove gloves, perform hand hygiene, obtain additional item(s) and add to sterile field, then perform surgical hand asepsis and re-glove (sterile)

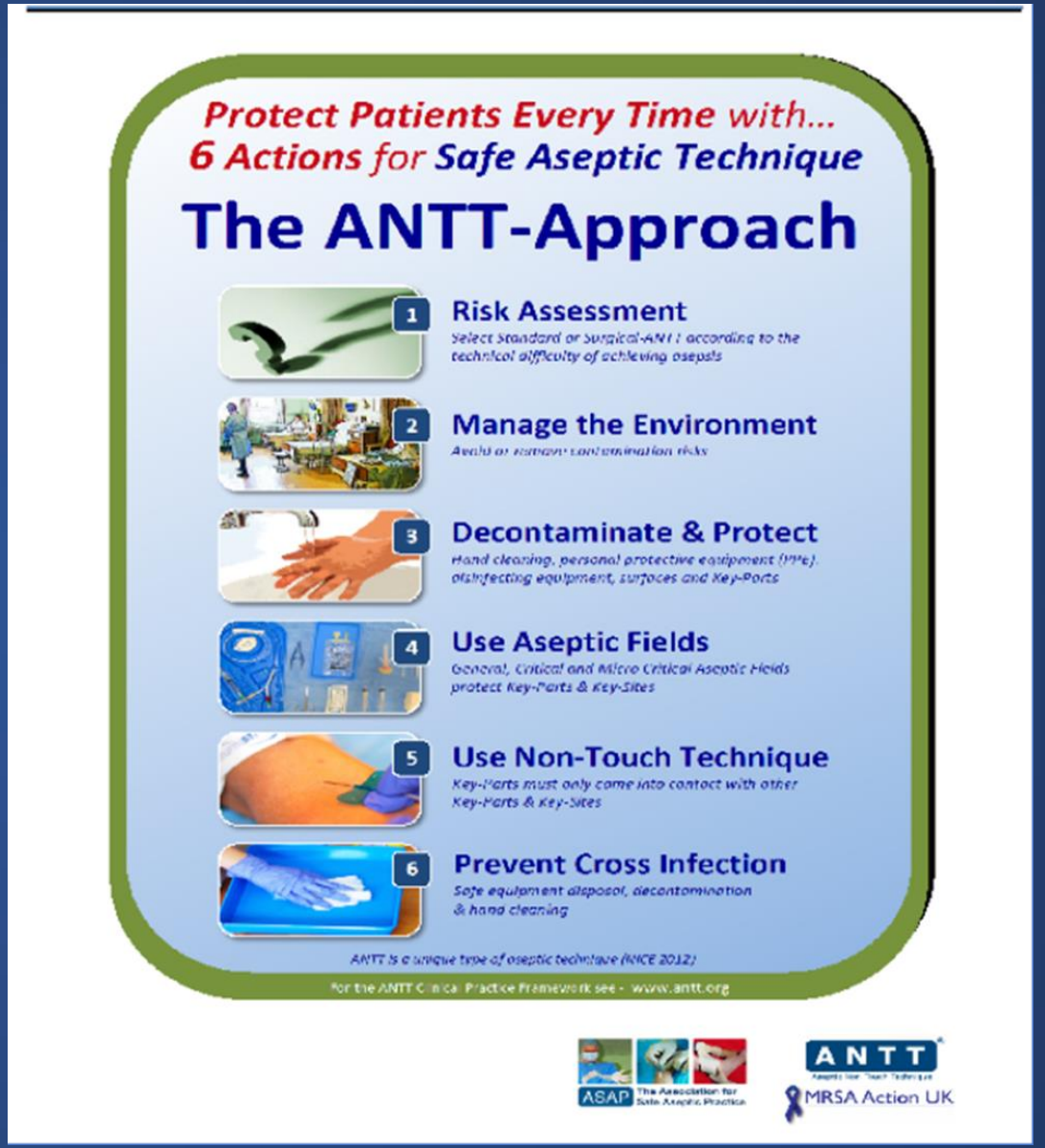
Non-Compliance #4

Off-Site transportation and handling of sterile items:

- maintaining the principles of asepsis and aseptic technique
- maintaining sterility of items
- **separation of sterile and used items**
- pre-treatment of used items at end of procedure
- working from suitable surfaces (e.g. not the floor)

Performing good aseptic technique (both standard and surgical) leads to improved outcomes for patients and a safer environment for staff.

Win – Win



Questions?

References

- ACIPC Aseptic Technique Resources
- ACSQHC *Aseptic technique*
- ANTT Aseptic Non Touch Technique
- NHMRC *Australian guidelines for the prevention and control of infection in healthcare.*
- RACGP Standards
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