

Infection Control



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Learning Objectives

By the end of this session, each participant should be able to:

1. Identify the factors contributing to nosocomial infections.
2. Apply infection control measures to the neonatal care units.
3. Identify the importance of and perform proper hand washing.

Learning Objectives (cont)

4. Prevent infection of the neonates in the neonatal care units.
5. Recognize neonates requiring category-specific isolation.
6. Implement infection control measures of feeding and nutrition equipment.
7. Maintain clean IV lines.

Learning Objectives (cont)

8. Apply infection control measures to personnel in the neonatal care units.
9. Implement routine infection surveillance and the specific measures required for active outbreaks in neonatal care units.

Infection Control

- Neonatal septicemia is the leading cause of mortality in neonatal care units.
- In developed countries, the rate of nosocomial infections in neonatal care units is much less because they follow the infection control measures.
- Infection control measures are simple and effective if applied properly.

Infection Control In Neonatal Care Units

Factors Contributing to Nosocomial Infections

- Immaturity of the immune system especially in preterm neonates.
- Invasive procedures which interrupt normal barriers e.g. intubation, catheterization and intravascular lines.

Factors Contributing to Nosocomial Infections (cont)

- Overcrowding and understaffing.
- Abuse of antibiotics.
- Noncompliance with infection control policies, especially hand washing.

Application of Infection Control Measures in Neonatal Care Units

- The nursery should be isolated from the street environment with no windows open to the outside.
- All nursery entrances should have elbow or foot operated sinks and soaps dispensers and disposable towels to allow for proper hand washing before entering the nursery.

Application of Infection Control Measures in Neonatal Care Units (cont)

- Avoid over crowding in the nursery.
- Isolation room or area should be present.
- Gowns and disposable facilities should be present at the entrance. (?)
- The floors of the nursery should be wiped for dust every 8 hours and wet mopped once a day and whenever needed.

Application of Infection Control Measures in Neonatal Care Units (cont)

- Linen inside incubator should be changed once a day or if contaminated. The incubator should be wiped with sterile water once a day or if contaminated.
- A label with date of change should be attached to every incubator.
- There should be a designated clean area to disinfect incubators.

Application of Infection Control Measures in Neonatal Care Units (cont)

- There should be wall sinks inside the nursery, one for every three incubators. (8 steps rule)
- The nursery surfaces should be thoroughly cleaned at least once/week and always when needed.

Hand Washing Importance and Procedures

Hand washing is the single most important infection control measure.

- Roll sleeves to elbow and remove all jewelry.
- Before entering the units wash thoroughly for two minutes and antiseptic hand washing solution. Start from hands, under nails, and wash sides of fingers. (? use of brush)
- Rinse thoroughly with running water.

When to Scrub

- 3 minutes scrub at the start of a shift.
- 3 minutes scrub before invasive procedures (UAC, central line, chest tube, etc.).
- 3 minutes scrub for personnel not permanently assigned to the NICU (EKG or radiology technician).
- 15-30 second hand wash with antiseptic agent before and after touching a patient. (waterless)

Measures to Prevent Neonatal Infection

- Neonates should be bathed 3 times/week using appropriate soap.
- Electrodes should be changed every third day.
- Umbilical stump should be treated with alcohol every shift.
- Prophylactic eye ointment are to administered to all neonates on the first days of life.

Neonates Requiring Category-Specific Isolation

- Staphylococcal infection
- Bacterial conjunctivitis
- Gastroenteritis
- Wound infections
- RSV & Influenza

Neonates Requiring Category-Specific Isolation

Category of Isolation Precaution	Nursery	Components of Isolation Procedure
Strict Contact	Varicella	In a separate isolation room
Contact	<ul style="list-style-type: none">• Acute respiratory viral infections (e.g., respiratory syncytial virus)• Congenital rubella• Gonococcal conjunctivitis• Herpes simplex, disseminated or local• Scalded skin• Staphylococcal impetigo and wound infection	Masks, gowns, gloves, and hand washing

Neonates Requiring Category-Specific Isolation

Category of Isolation Precaution	Nursery	Components of Isolation Procedure
Enteric	<ul style="list-style-type: none">• Enteroviral infection (e.g., aseptic meningitis)• Gastroenteritis• Necrotizing enterocolitis	Gowns, gloves, and hand washing
Drainage and Secretions	<ul style="list-style-type: none">• Conjunctivitis (nongonococcal and nonchemical)• Wound infection (nonstaphylococcal)	Gloves and hand washing. Gowns only if soiling is likely.

Neonates Requiring Category-Specific Isolation

Category of Isolation Precaution	Nursery	Components of Isolation Procedure
None	<ul style="list-style-type: none">• Cytomegalovirus infection• Group B streptococcal infection	None

Infection Control Measures of Feeding and Nutrition Equipment

- Use breast milk as much as possible.
- Proper sterilization of feeding bottles must be implemented at all times.
- Use of sterile water is mandatory.
- Feeding tubes are to be changed every 2-3 days.

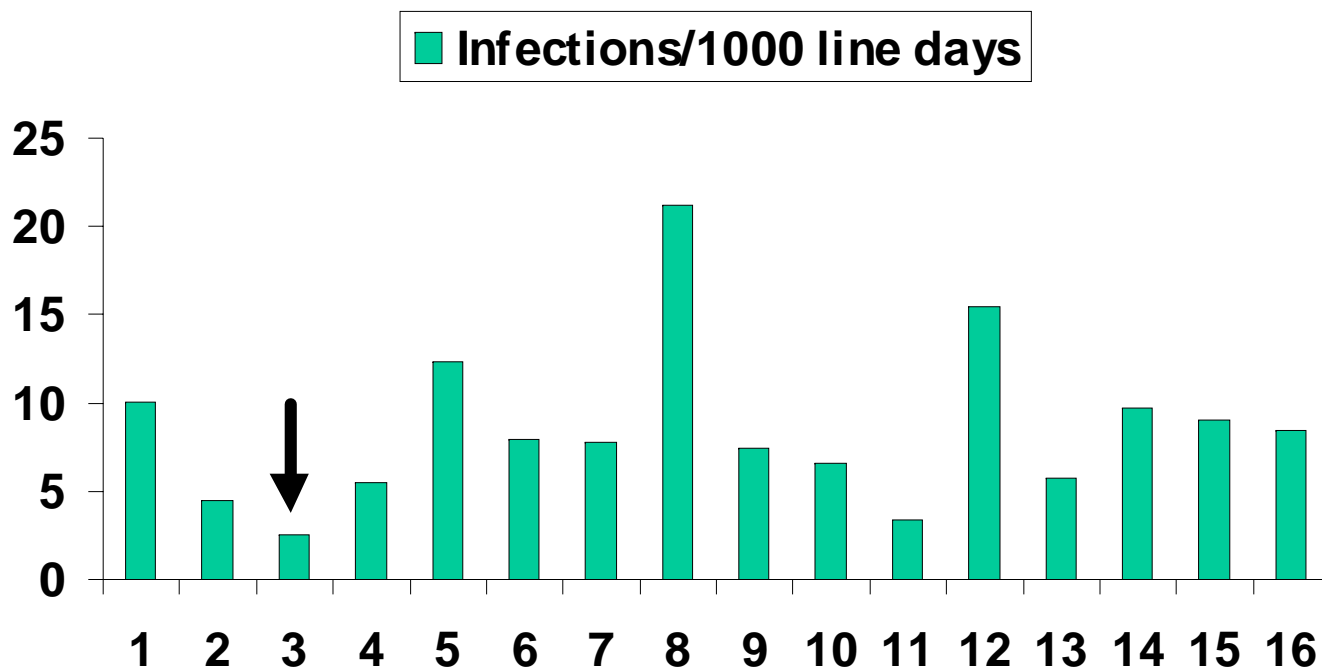
Infection Control Measures for IV Lines

- Sterile fluids are to be replaced daily.
- Daily evaluation of dressings is to be done and documented.
- Weekly dressing change and when soiled or wet.
- IV tubes and syringes must be changed daily (?).
- Solusets (?)
- DO not share supplies and flushes.

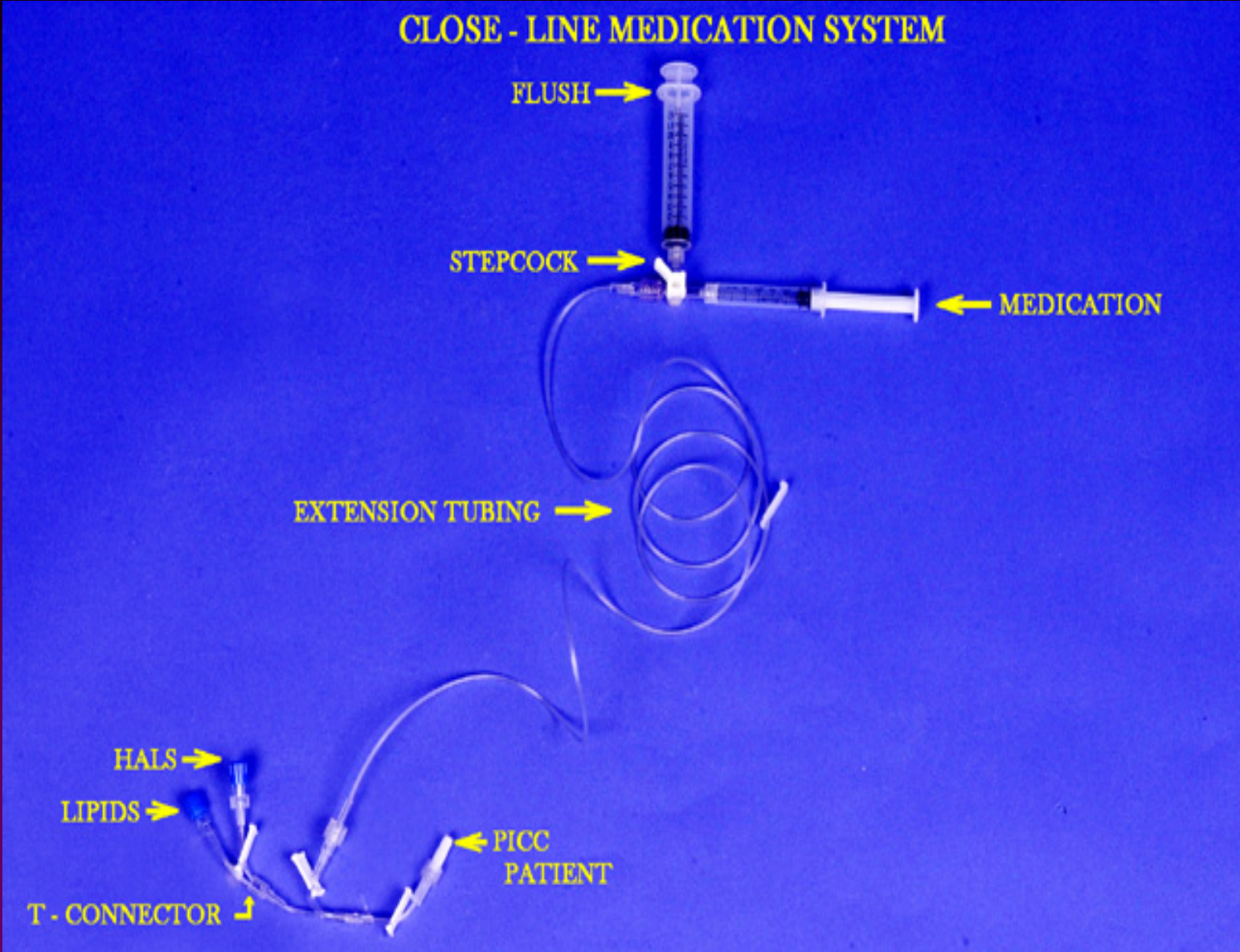
Infection Control Measures for IV Lines

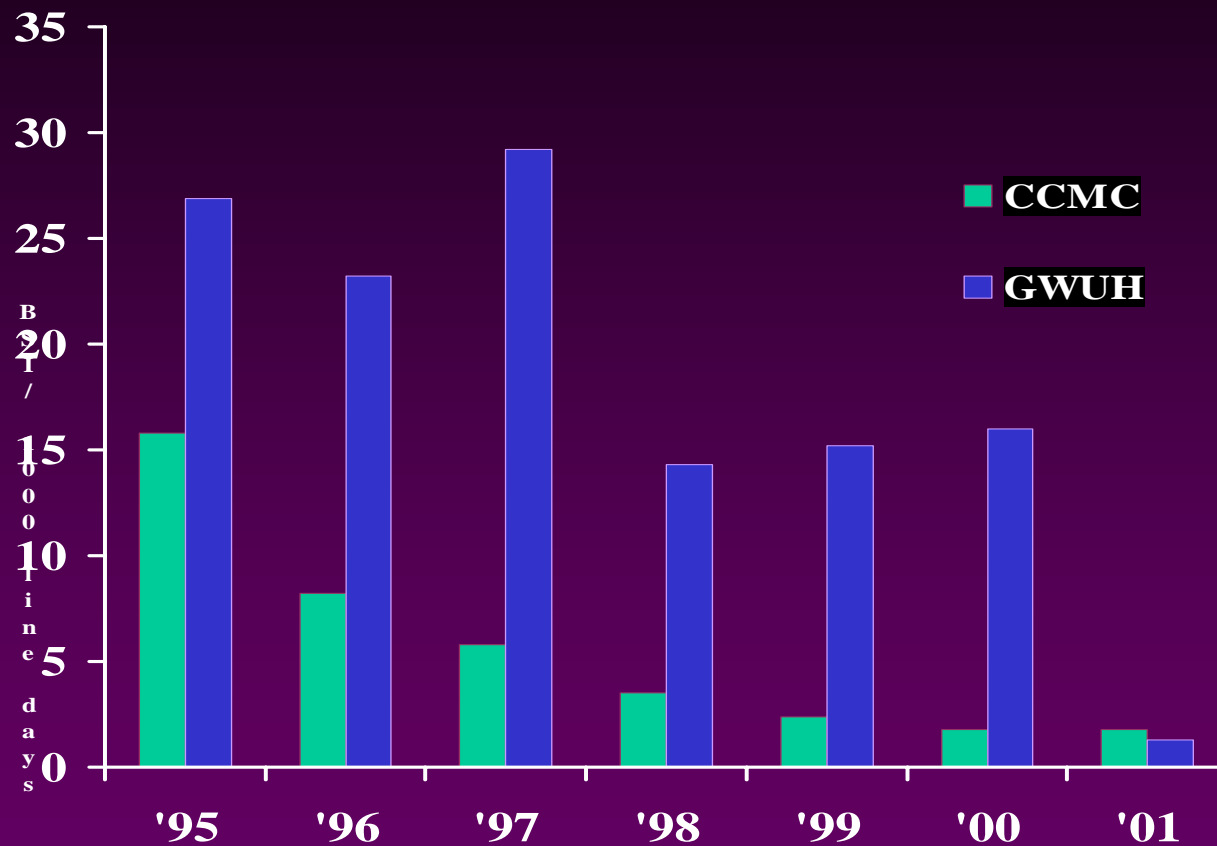
- Minimal interruptions to IV lines.
- Close medication system.

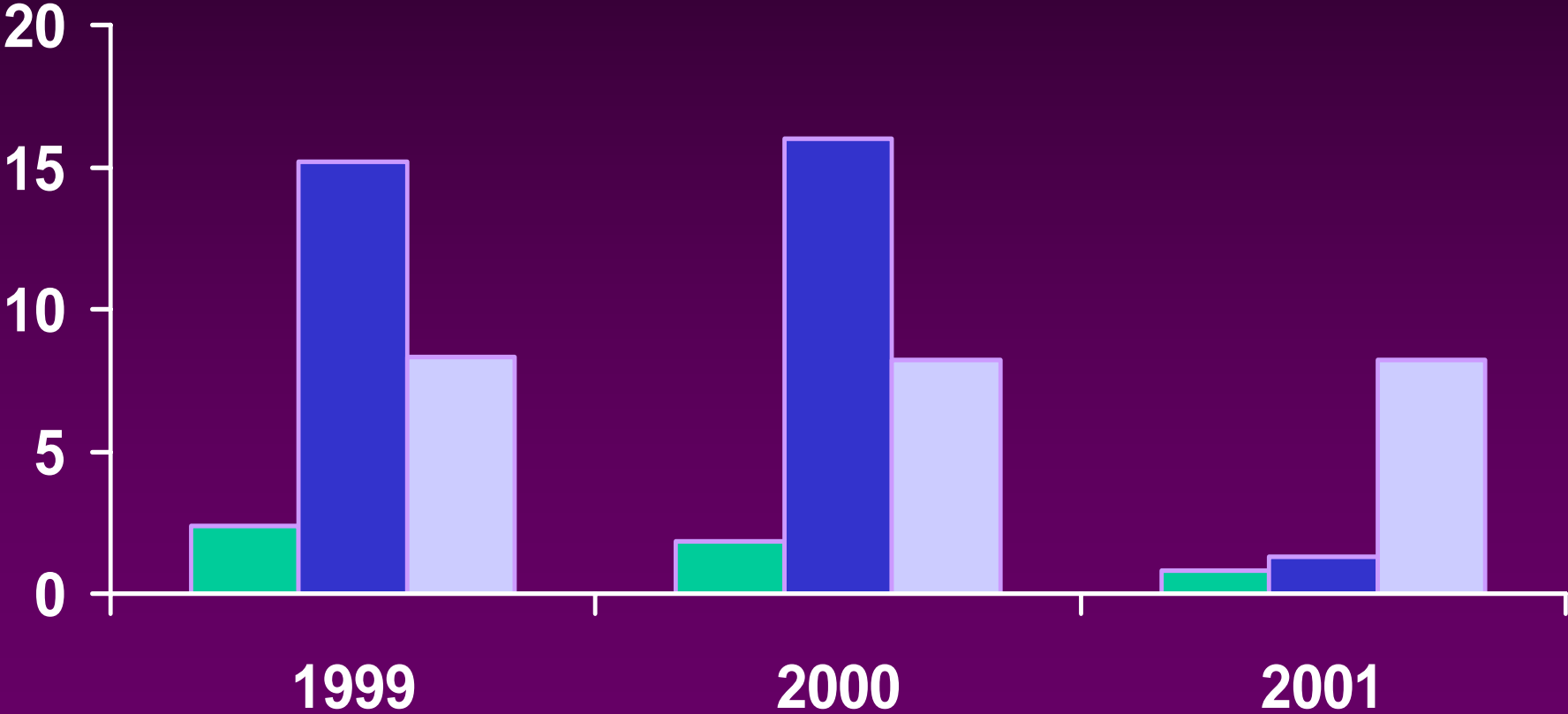
BLOOD INFECTIONS-NICUS



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Infection Control for Neonatal Care Personnel

Neonatal care personnel should be aware of the potential for transmission of contagious diseases to neonates and should be strongly encouraged to report infectious diseases to their supervisor e.g. cutaneous staphylococcal or herpetic lesions, respiratory illness, conjunctivitis and gastroenteritis.

Infection Surveillance in Neonatal Care Units

- A system of routine surveillance of the incidence of acquired infections in neonatal units must be developed and implemented in all neonatal care units.
- During outbreaks bacterial cultures of all surfaces and blood cultures of infected neonates are necessary for identification of bacterial isolates.

Infection Surveillance in Neonatal Care Units (cont)

- Should keep track of infection rates. Such rates may require stratification based on variable factors such as gestational age, birth weight, and/or invasive procedures.
- Specific infection control measures during infectious outbreaks.

Infection Surveillance in Neonatal Care Units (cont)

- Bacterial cultures of nursery environment and personnel are necessary.
- Incubator should be changed for proper cleaning with 10% hypochlorite.
- Every 5 days for neonates < 1000 grams
- Every week for neonates > 1000 grams

Specific Infection Measures during Infectious Outbreaks

- Gloves are recommended when contact with blood, body fluids, mucous membranes and non-intact skin.
- Sterile gloves for <1000 g infants (?).

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