

Immediate Newborn Care

Session Objective

Use evidence based practices in immediate newborn care as described in the skill checklist.

Specific Objectives

- . Explains evidence based practices for immediate newborn care.
- . Describe the steps of immediate newborn care.
- . Demonstrate providing immediate newborn care.

What is Evidence Based Care?

- **Making clinical decisions and providing care based on knowledge gained from clinical research**
- **Limiting the influence of personal bias**

Albers, L. Evidence and Midwifery Practice. *Journal of Midwifery & Women's Health*, 46: 130-6. 2001.

Where to Access Evidence Based Information

- **Cochrane Library: www.cochranelibrary.com**
- **WHO Reproductive Health Library (CD-Rom)**
- **WHO's IMPACT Series Manuals**
 - **Managing Complications in Pregnancy and Childbirth**
 - **Managing Newborn Problems**
 - **Essential Care Practice Guide**
- **Life Saving Skills Manual for Midwives**

Where to Access Evidence Based Information

A Guide to Effective Care in Pregnancy and Childbirth (1995 and 2000)

- **Editors: M. Enkin; M. Keirse; M. Renfrew & J. Neilson**
- **Provides conclusions from many research studies**
- **Organizes interventions and practices from helpful to harmful**

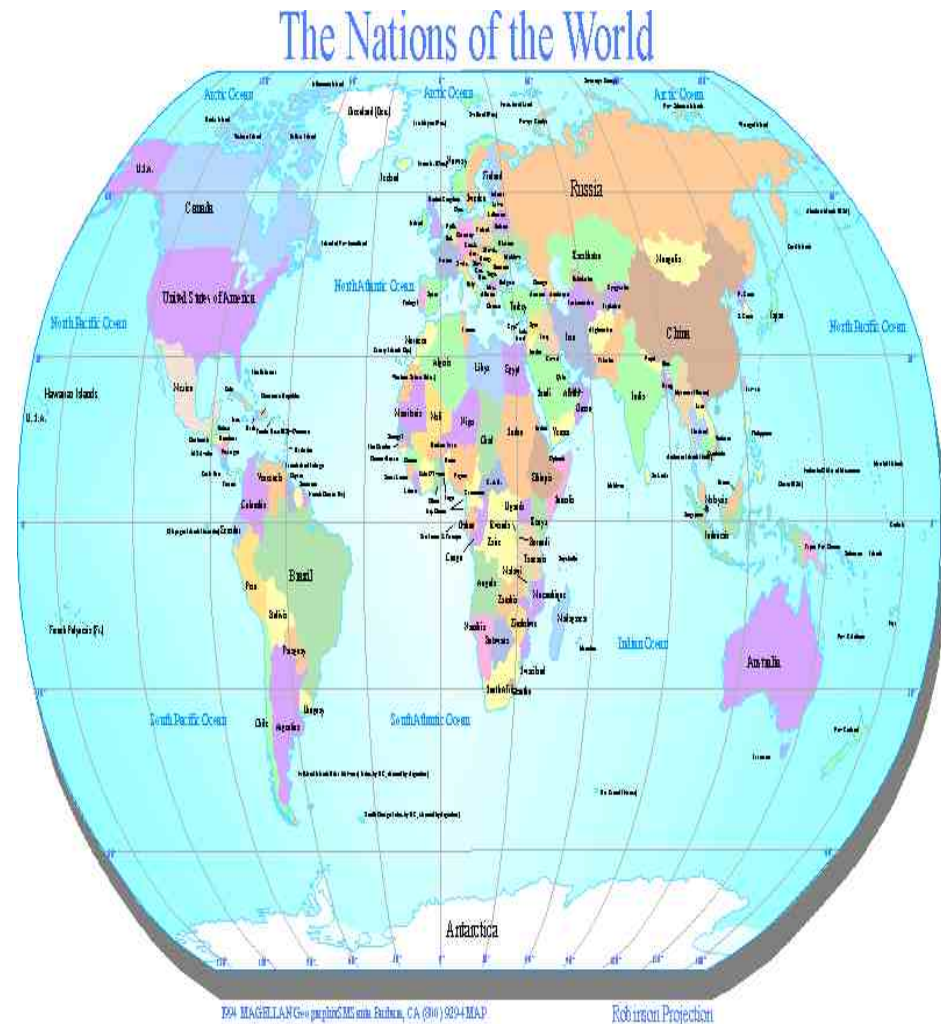
What Does the Evidence Say About Newborn Care?

Newborn Mortality

Worldwide 83.1% of newborn deaths occur during the first 7 days of birth

Causes of death include:

- **Asphyxia**
- **Infection (tetanus, sepsis, pneumonia)**
- **Hypothermia**



What Every Newborn Needs

- **Dry**
- **Warm**
- **Breathing**
- **Skin to skin contact with the mother**
- **Early breastfeeding**

Essential Newborn Care Includes:

- **Clean delivery and cord care**
- **Support breathing and do resuscitation if needed**
- **Keep warm**
- **Delayed cord clamping**
- **Early (within an hour after birth) and exclusive breastfeeding**

Essential Newborn Care Includes:

- **Eye care to prevent and manage ophthalmia neonatorum**
- **Immunization: At birth BCG, OPV and HBV vaccine (WHO)**
- **Identification and management of sick newborn**
- **Care of preterm and/or low birthweight newborn**

Keep Baby Warm

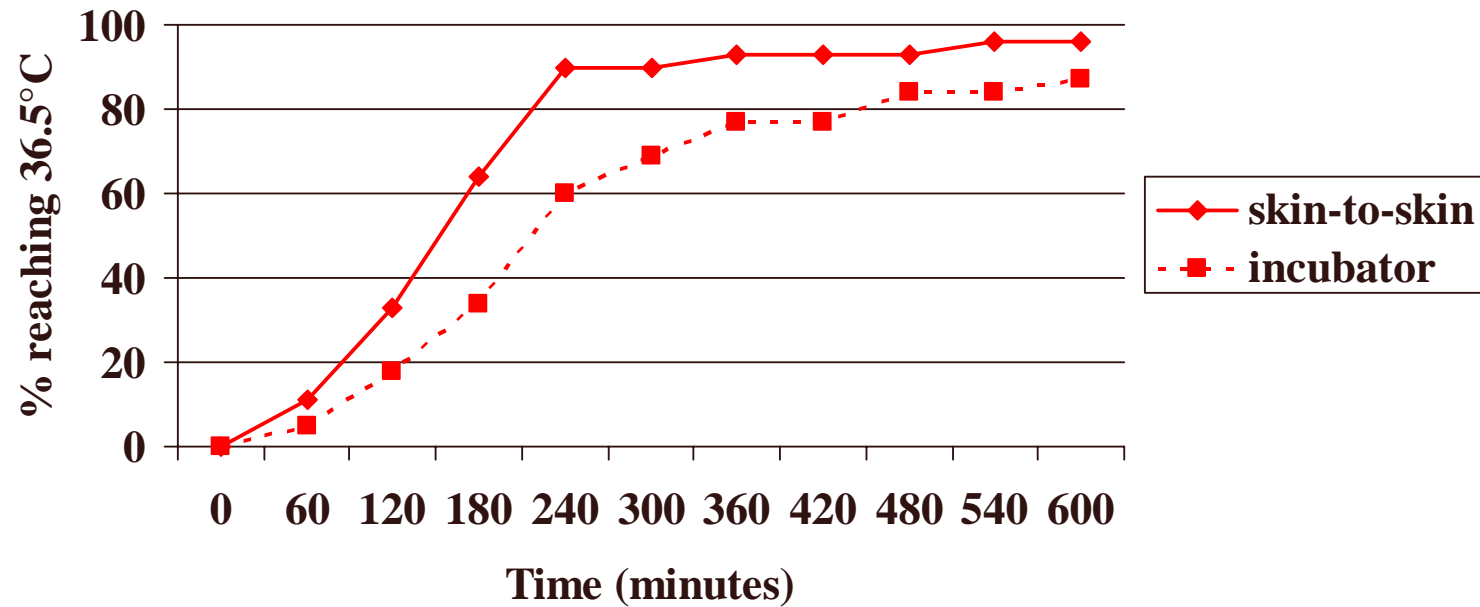
- **Normal temperature: 36.5 - 37.5 0C**
- **Deliver in a warm room**
- **Dry thoroughly (except hands)**
- **Place baby on mother's chest, SKIN-TO-SKIN**
- **Cover mother and baby together. Put hat on baby if available**
- **Check warmth by feeling baby's abdomen every 15 minutes**

- **Bath when temperature is stable (after 24 hours)**

Skin-to-skin Contact to Rewarm Cold Babies

Christensson K et al. Lancet 1998;352:1115

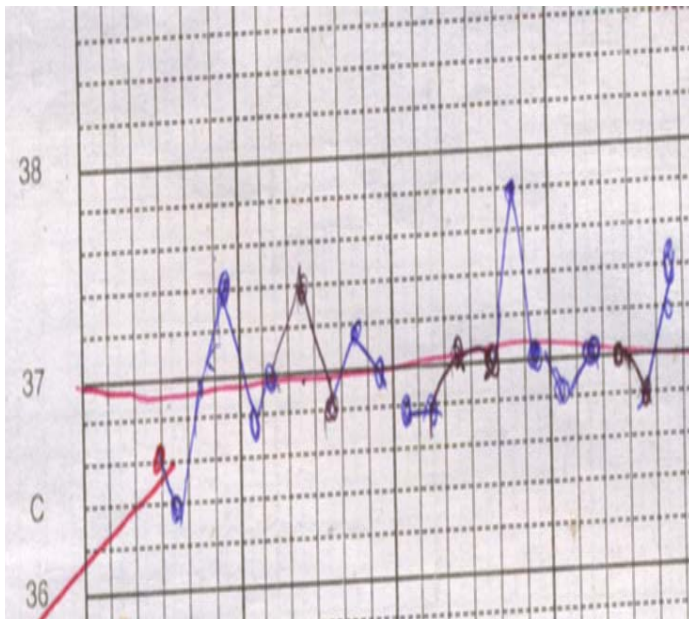
Cumulative proportion of rewarmed infants



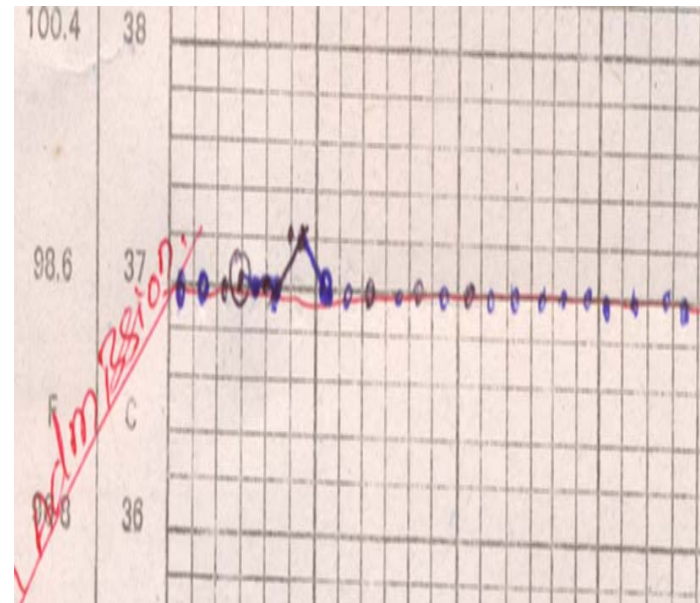
With skin-to-skin cold babies became warmer more quickly than in an incubator!

Changes in Temperature

No Skin-to-Skin



Skin-to-Skin



Swings in temperature Constant temperature
Skin-to-Skin Effect on Breastfeeding

Study	Outcome	Skin-to-Skin	No Skin-to-Skin
Schmidt	Daily volume	640 ml	400 ml
	Daily feeds	12	9
Wahlberg	BF at discharge	77%	42%
Whitelaw	BF >6 weeks	55%	28%

Better Breastfeeding Rates!

Support Breathing

- **Spontaneous breathing will happen in most newborn babies (> 30 breaths per minute)**
- **Only gentle stimulation, if at all, is needed**
- **NO need to suction routinely**

Early and Exclusive Breastfeeding

- **Place baby on mother's chest SKIN-TO-SKIN so baby can begin early breastfeeding**
- **Best practices:**
 - **Encourage first breastfeed within first hour**
 - **DO NOT separate mother and baby until 1st breastfeed**
 - **Breastfeed on demand**
 - **Psycho-social support to breastfeeding mother**

- **No prelacteal feeds or other food**

Eye Care to Prevent or Manage Ophthalmia Neonatorum

- **Caused by gonorrhea and chlamydia (30-50% transmission rate)**
- **Appears usually 2-5 days after birth**
- **Corneal eye damage if untreated**
- **Can become systemic if not managed**

Eye Care to Prevent or Manage Ophthalmia Neonatorum

Provide eye care before 1 hour

- **1% Silver nitrate (Not effective for chlamydia)**
OR
- **1% Tetracycline (not effective for some gonorrhea strains)**
OR
- **0.5% Erythromycin**

Note: The above is a WHO recommendation, Pakistan is reviewing it's eye care protocol because of the low rate of Chlamydia.

Care of the Umbilical Cord

- **Delay cord clamping for 2 – 3 minutes**
- **Before cutting, milk cord toward placenta and cover with gauze**
- **General Care**
 - **Keep dry and expose to air with no bandages**
 - **Keep clean**
 - **Protect by only using clean clothes**
 - **Wash with clean water and soap ONLY IF CORD APPEARS DIRTY (NO need for alcohol) and dry with clean gauze or cloth**

Delayed Cord Clamping

Immediate clamping and cutting of the umbilical cord can decrease the red blood cells an infant receives at birth by more than 50%. Wait until 2 – 3 minutes after baby's birth. Delayed clamping and cutting is helpful to both term and preterm babies.

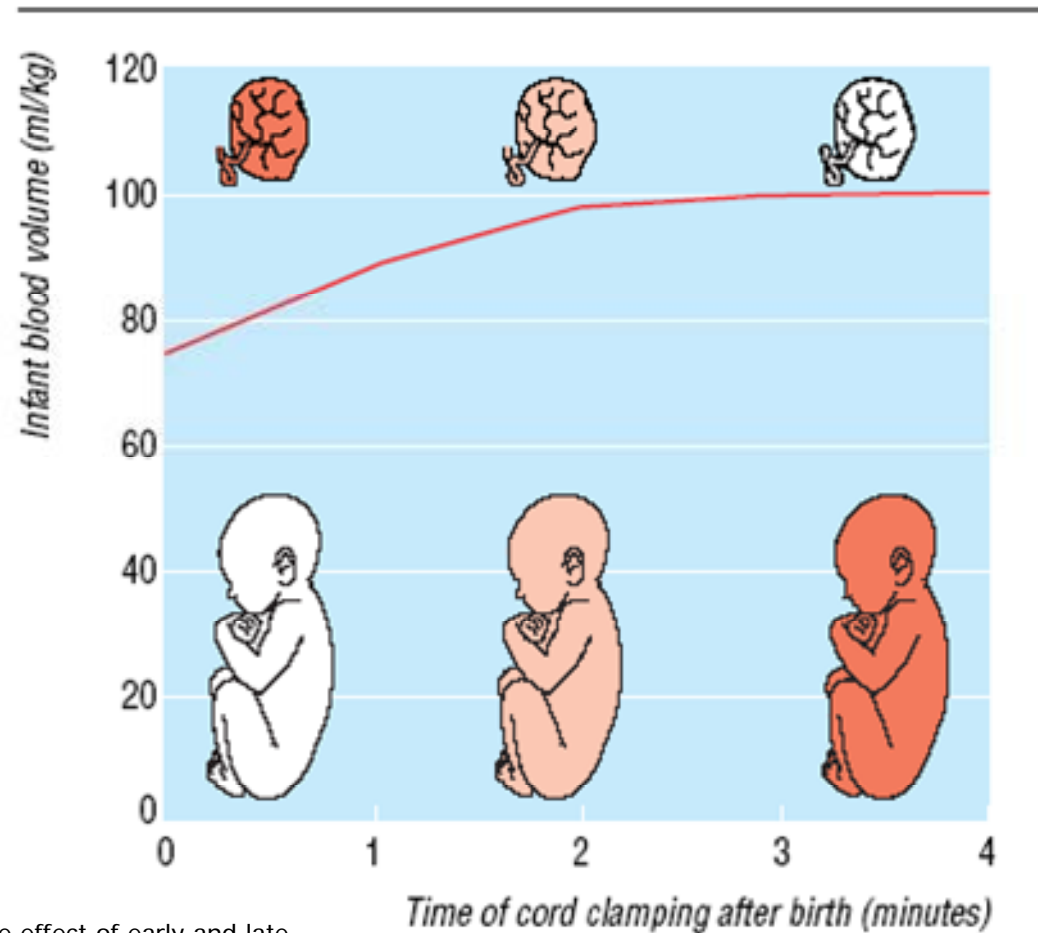
- Term babies have less anemia at 2-6 months of age and increased duration of early breastfeeding.
- Preterm babies have higher hemoglobin levels and less need for transfusions in the first 4 to 6 weeks of life.
- From 10 cm above and below the level of the placenta, there is good flow of blood to the baby. Therefore, if you put the baby on the mother's abdomen, the baby will still be within 10 cm of the

placenta, so blood in the cord will flow normally.

- Recommended by World Health Organization.

Patrick F van Rheenen and Bernard J Brabin, *BMJ* 2006;333:954-958

Distribution of blood between infant and placenta depending on time of cord clamping after birth with term baby at perineal level



Adapted from Linderkamp O, et al. The effect of early and late cord-clamping on blood viscosity and other hemorheological parameters in full-term neonates. *Acta Paediatr* 1992;81:745-50.

Immediate Newborn Care Steps

- 1. Dry (except the hands) and stimulate the baby.** The smell of the amniotic fluid on the baby's hands smells much like the mother's nipple/areola area. When the baby crawls up the abdomen of the mother the smell on the hands helps the baby find the breast.
- 2. Assess baby's breathing and color** (decide if the baby needs resuscitation).
- 3. Remove the wet cloth** used to dry baby.

Immediate Newborn Care Steps (continued)

4. Place baby on the mother's abdomen, **SKIN-TO-SKIN**, and cover both mother and baby with a warm cloth. Cover baby's head or put a hat on baby (if available).
 - Skin-to-skin is the direct body contact between baby's front and mother's chest.
 - Supports baby's warmth, breathing and breastfeeding.

Immediate Newborn Care Steps (continued)

5. Do delayed cord clamping.

6. Do not separate mother and baby until after the first breastfeeding.

- Have patience, the baby will crawl up the mother's abdomen, find the nipple and attach to the breast without assistance within 30-50 minutes.
- **Wait to do routine care** such as weighing, giving of Vitamin K injection, eye drops and measurement until baby is warm and has breastfed.

Newborn Resuscitation

Session Objective

Demonstrate newborn resuscitation as described in the skill checklist.

Specific Objectives

- . Define asphyxia and hypoxia
- . Describe possible causes of hypoxia in the newborn.
- . Describe symptoms of a newborn needing resuscitation.
- . Discuss materials and equipment needed to perform newborn resuscitation
- . Demonstrate newborn resuscitation using an ambu bag as described in the newborn resuscitation skill checklist.
- . Use infection prevention procedures during and after newborn resuscitation

- . Describe care for a baby after resuscitation.

Asphyxia and Hypoxia Defined

Asphyxia	When a baby does not begin or sustain adequate breathing at birth.
Hypoxia	Not enough oxygen in the body tissues

POSSIBLE CAUSES OF HYPOXIA

- **POOR OXYGEN CIRCULATION IN THE UTERUS:**
 - Not enough oxygen in maternal blood, e.g., mother with heart disease, asthma.
 - Low blood pressure in the mother, e.g. compression of vena cava or aorta by the uterus, **maternal bleeding**.
 - Not enough uterine relaxation due to oxytocin administration.
- **PLACENTAL FACTORS:**
 - Premature placental separation, causing maternal hemorrhage → reduced maternal BP → reduced placental circulation → less oxygen to baby.
 - Placental insufficiency, e.g., PIH, postmaturity, maternal high BP or infection
- **UMBILICAL CORD COMPRESSION:**
 - Poor blood circulation through the cord due to compression or knotting
- **TRAUMA DUE TO INSTRUMENTAL DELIVERY**

How Do You Decide If a Baby Needs Resuscitation?

Signs for Resuscitation:

The baby needs resuscitation if there is no breathing or the baby is gasping.

Do You Use the Apgar Score to Decide If Resuscitation is Needed?

Apgar Score is done at 1 minute after birth. Resuscitation must be started as soon after birth as possible (at least within 30 seconds of birth). Therefore Apgar Score is NOT used to decide if resuscitation is needed.

Apgar Score is used to evaluate
the results of resuscitation.

NEWBORN RESUSCITATION STEPS

1. DRY	<ul style="list-style-type: none">➤ Dry the baby with a towel or a cloth, from head to toe, until most of the amniotic fluid is gone.➤ Take away the wet towel.
2. WARM	<ul style="list-style-type: none">➤ Warm the baby by quickly wrapping with a warm dry towel or cloth. Keep the chest uncovered to see the baby's breathing. Cover the head with the cloth or a hat if one is available. You can also put a light over the baby to provide extra heat if you have one.
3. POSITION	<ul style="list-style-type: none">➤ Place a small rolled towel or cloth under the baby's shoulders so the head is slightly extended in the "sniffing" position. This is the best position to keep the airway open.

NEWBORN RESUSCITATION STEPS

4. **SUCTION**

- Suction with a bulb syringe or suction tube.
- Suction the mouth first then the nose (the mouth has more secretions than the nose... if you suction the nose first and the baby breathes in, the baby will breath in what is in the mouth).
- Suction only while pulling suction tube out, NOT while putting it in. For bulb, compress before inserting in mouth, release compression to suction, remove from mouth and compress bulb again to expel contents. Repeat for each nostril. Do not insert suction tube or bulb more than 5 cm into the mouth or 3 cm into the nose.
- If meconium is present: After delivery:
 - If baby is vigorous: No SPECIAL suctioning is needed
 - If baby NOT vigorous and meconium is thick: Suction baby immediately after birth. Suction the mouth first. Then suction nose.

NEWBORN RESUSCITATION STEPS

5. STIMULATE	<ul style="list-style-type: none">➤ Rub your hand up and down the baby's spine to stimulate the baby. This can be done without removing the cloth or the towel in which the baby is wrapped.
6. OXYGEN (IF AVAILABLE)	<ul style="list-style-type: none">➤ If oxygen is used during ventilation, give at 5 – 6 liters per minute.➤ After ventilation and the baby is breathing but still pale, give oxygen at 2 liters/minute.

NEWBORN RESUSCITATION STEPS

7. **BREATHE FOR BABY**

Note: Time from “decision to start resuscitation” to “time to start ventilation” should be no more than 30 seconds.

1. If doing mouth-to-mouth resuscitation wipe baby’s face with: 1) gauze wet with soap water, 2) gauze wet with clean water. Then cover mouth and nose with a dry gauze.
2. Cover the baby’s chin, mouth and nose and make a good seal. If using an ambubag, put the mask on the baby. If doing mouth-to-mouth use your mouth.
3. Do 2 test breaths to observe if the chest rises. Compress ambubag or breathe into the baby using a mouthful of air only with each breath.
4. If the chest does not rise: Suction the mouth and nose, reposition the baby and check the seal between the baby’s face and the mask (or your mouth). Ventilate the baby again.
5. If the chest rises: Breathe 40 times in 1 minute for the baby.

NEWBORN RESUSCITATION STEPS

7. BREATH FOR BABY (CONT)

6. Recheck respirations.
7. If the baby is breathing: Continue to support baby with warmth, stimulation and oxygen, if available, until baby is pink and active.
8. If baby is not breathing: Continue to breathe for the baby. Check for respirations after each 40 breaths. Do this until the baby is breathing. Then continue to support baby with warmth, stimulation and oxygen (if available) until the baby is pink and active.
9. If there is no gasping or breathing at all after 10 minutes of bag and mask breathing, stop breathing for the baby.

Infection Prevention

Session Objective

Use infection prevention practices as described in the skill checklist.

Specific Objectives

- Discuss infection prevention standard precautions
- Discuss hand hygiene practices used to prevent infection
- Demonstrate hand washing
- Describe ways to provide personal protection when giving care
- Describe ways to prevent injuries from sharps
- Describe infection prevention housekeeping practices
- Explain methods of safe waste disposal
- Discuss antiseptics and disinfectants
- Discuss making 0.5% chlorine decontamination solution
- Demonstrate how to process patient care instruments and supplies safely

(decontamination, cleaning, high level disinfection or sterilization, storage)

USING STANDARD PRECAUTIONS MEANS TO ALWAYS:

- CONSIDER **EVERY** PERSON POSSIBLY INFECTIOUS. This includes even the baby and medical staff.
- Take **ALL STANDARD PRECAUTIONS WITH ALL PATIENTS.**
- Wash your hands.
- Wear protective clothing when needed (gloves, eye protection, aprons, closed shoes).
- Prevent injuries with sharps.
- Process patient care instruments and equipment safely.
- Keep the environment clean.

- Dispose and transport wastes safely.

ALWAYS WASH HANDS

With Soap and Water:

- When visibly dirty
- When possible exposure to spore-forming germs, such as *Clostridium difficile* or *Clostridium tetani*. (causes tetanus)
- When blood and body fluids are on skin
- After using toilet
- Whenever hand cleaning is necessary but no alcohol-based handrub is available

With Alcohol-based Handrub:

- When arriving / leaving work place
- Before / after touching a patient (woman, baby)
- After contact with body fluids or excretions, mucous membranes, skin that is not intact or wound dressings
- If moving from a contaminated body site to another body site on the same patient
- Before / after using gloves
- Before handling medicines or foods
- Before and after eating and after coughing or blowing nose.

ALCOHOL-BASED HANDRUBS

What is it?

Cleaning hands with antiseptics such as alcohol (60-90% ethyl or isopropyl)

Advantages:

- Inhibits or kills most gram negative and gram positive bacteria, TB, viruses (HIV) and fungi. More effective than handwashing, which removes dirt, blood and some transient germs, but not all.
- If used with hand softeners like glycerin or propylene glycol, protects and softens skin.

ALCOHOL-BASED HANDRUBS

How to Make:

Mix 100 mL 60-90% ethyl or isopropyl alcohol with 2mL skin softener (glycerin, propylene glycol, sorbitol)

How to Use:

- Pour about 5 mL into hands
- Rub solution into hands. Clean the palm, fingers and under nails, until dry.
- Wash hands with soap and water after every 5 - 10 uses to reduce the build-up of hand softeners.

PERSONAL PROTECTIVE ITEMS	
MASK AND EYE PROTECTION	<p>Used for:</p> <ul style="list-style-type: none"> • Sorting and cleaning instruments and linens • Attending a vaginal delivery • Cutting umbilical cord <p><i>Note: Eye protection can include goggles, face shields, or plain glasses</i></p>
APRON OR GOWN	<p>Used for:</p> <ul style="list-style-type: none"> • Sorting and cleaning instruments and linens • Attending a vaginal delivery
FEET PROTECTION	<p>Closed shoe or boot made from rubber or leather. Protects the wearer from:</p> <ul style="list-style-type: none"> • Injury by sharps or heavy items • Blood or other body fluids on the floor

PERSONAL PROTECTIVE ITEMS

GLOVES

Utility or Heavy Duty Gloves:

To touch dirty instruments, linens and waste, doing housekeeping and cleaning contaminated surfaces.

Single Use Examination Gloves:

Use if having contact with intact mucous membranes and when at risk of exposure to blood or other body fluids.

Surgical Gloves:

For all procedures having contact with tissues under the skin or with the blood stream.

HOUSEKEEPING IN CLINICAL AREAS

CLEANING SOLUTIONS

Three types of cleaning solutions are used during housekeeping at a health facility. It is important for everyone to understand the different types of cleaning agents and how each should be used.

DIFFERENT TYPES OF CLEANING SOLUTIONS

1. **Plain detergent and water:** Used for low risk areas and general cleaning.
2. **Disinfectant solution:** 0.5% chlorine solution. Quickly kills germs during cleaning. Can be used to clean up spills of blood or other body fluids.
3. **Disinfectant cleaning solution:** Solution containing a disinfectant, a detergent and water. Used to clean areas contaminated with infectious materials. The disinfectant quickly kills germs while the detergent removes dirt and organic material, which cannot be done by water or disinfectants alone.

Making a Disinfectant Cleaning Solution:

Step 1: Prepare 0.5% chlorine solution

Step 2: Add detergent and mix. Continue adding detergent until the solution is mildly sudsy.

Caution: Never mix chlorine solutions with cleaning products containing ammonia, ammonium chloride or phosphoric acid. Mixing these chemicals releases a chlorine gas that can cause nausea, eye irritation, headache and shortness of breath.

GENERAL HOUSEKEEPING GUIDELINES

Although certain areas of a clinic or hospital need special housekeeping procedures, the following list applies to all:

1. Develop and post a cleaning schedule where all housekeeping staff can see the schedule. Make sure cleaning schedules are closely maintained.
2. Always wear gloves (preferably thick utility gloves) when cleaning.
3. Use a damp or wet mop or cloth for walls, floors, and surfaces instead of dry dusting or sweeping to reduce the spread of dust and microorganisms.
4. Scrubbing is the most effective way to remove dirt and microorganisms. Scrubbing should be a part of every cleaning procedure.
5. Wash surfaces from top to bottom so that debris falls to the floor and is cleaned up last. Clean the highest fixtures first and work downward. For example, clean ceiling lamps, then shelves, then tables, and then the floor.
6. Change cleaning solutions whenever they appear to be dirty. A dirty solution is less likely to kill germs.

Cleaning Schedule: Client Care Areas

Cleaning Schedule: Client Care Areas

Between Clients

- Clean delivery/examination tables (mattress, frame, legs), trolley tops, counters, lamps, and any other surface that could be contaminated with a cloth damp with disinfectant cleaning solution.
- Clean spills of blood/other body fluids with 0.5% chlorine solution immediately.
- Clean any dirty areas you can see of the floor, wall, and ceiling with a mop or cloth damp with disinfectant cleaning solution.
- Put waste in a leakproof container. Empty the container when it is $\frac{3}{4}$ full.

Cleaning Schedule: Client Care Areas

**At the
End of
Each
Clinic or
Shift**

- Wipe down all surfaces (counters, tables, sinks, lights, door handles, walls with a cloth damp with disinfectant cleaning solution and wipe).
- Clean floors with a mop soaked in a disinfectant cleaning solution.
- Check sharps and disposal waste containers and remove and replace them if they are $\frac{3}{4}$ full.
- Remove hospital/clinic waste and burn or bury as soon as possible.
- Wash waste containers with disinfectant cleaning solution. Rinse with water.

Cleaning Schedule: Client Care Areas

Each Week	Clean ceilings with a mop damp with a disinfectant cleaning solution.
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Cleaning Schedule: Toilets, Latrines, and Instrument Cleaning Area/Room

What to Clean	Schedule (clean more often if needed) / What to Use
Clean Walls	Wipe every day with a disinfectant cleaning solution
Clean Ceilings	Wipe each week with a disinfectant solution
Clean Counters and Other Surfaces	Wipe every day with a cloth wet with disinfectant cleaning solution

Clean Floors	Mop every day with a disinfectant cleaning solution
Clean sinks and Toilets/Latrines	Scrub every day with a disinfectant cleaning solution and rinse with clean water
Clean Waste Containers	Every day scrub to remove contaminated material with a disinfectant cleaning solution and rinse with clean water

Triple-Bucket Technique for Cleaning Floors

Helps the decontamination solution last longer.

Use 3 buckets:

1st = Decontamination solution

2nd = Detergent water

3rd = Rinse water

Always rinse and wring out mop before dipping it into the decontamination solution. When rinse water becomes very dirty, dispose and put in clean rinse water.

What Waste Bins Should be Used?

- Placenta: 30 - 50 liters (smaller if fewer deliveries) in red
- Contaminated instruments: 30 - 40 liters (smaller if fewer deliveries) contains decontamination solution
- Wet waste/swabs/gloves: 20 - 40 liters
- Dry waste: 40 liters
- Hospital Linen: 60 liters in gray
- Basin: to rinse gloves with decontamination solution before removing

Note:

1. All bins and basins must be made of plastic.

2. Empty containers when $\frac{3}{4}$ full.
3. Put a label on each bin (placenta, dirty instruments, wet waste, dry waste, linen)

WAYS TO DISPOSE OF CONTAMINATED WASTE	
SINK, TOILET OR LATRINE	Before pouring liquid waste in a sink or toilet, think about where the drain empties. It is dangerous for liquid medical waste to run through open gutters or sewers.
BURY	<p>Bury contaminated waste. Use a pit that is in a safe location, is correctly filled in and is covered. A safely located pit:</p> <ul style="list-style-type: none"> • Has a fence around it • Is at least 50 meters from any water source • Is downhill from any wells • Is not in a flood area • Has a water level more than 4 meters below surface.

WAYS TO DISPOSE OF CONTAMINATED WASTE

BURN

This is the best method to dispose of contaminated waste. It prevents people and animals from collecting used supplies and reusing.

ENCAPSULATE

Seal the container that has waste in it by filling it completely with cement or clay and wait until it dries. Then either bury the sealed container or dispose of it in a landfill. This method can be used for disposal of sharps and other hazardous materials.

What is an Antiseptic?

It is a chemical that is **PUT ON THE SKIN** to kill or inhibit almost all bacteria and many viruses. This is often used on a patient before surgery or delivery.

What is a Disinfectant?

It is a chemical used to disinfect (kills bacteria, viruses, fungi) **CONTAMINATED INSTRUMENTS, EQUIPMENT, SUPPLIES** or to clean a contaminated **ENVIRONMENT**.

What are the Antiseptic Chemicals?

Alcohol	60 - 90% ethyl or isopropyl are excellent antiseptics. Do not use on mucous membranes. Menthylated spirit (ethyl alcohol denatured with a small amount of wood [methyl] alcohol) is the least effective alcohol antiseptic.
Iodine	Dilute ~ 3% such as aqueous iodine or tincture of iodine. Must never be used on mucous membranes because it rapidly absorbs and irritates the epithelium.
Iodophors	7.5 - 10% such as betadine. Can be used on mucous membranes.
Chlorhexidine	2 - 4% such as hibitane or hibiscrub. Savlon contains chlorhexidine but must be in concentrations of at least 2%. Many savlon solutions are less than 1%.

Chloroxylenol

0.5 - 4% such as Dettol. In Dettol, the antiseptic action is mostly due to alcohol, not chloroxylenol. A 60 - 90% ethyl or isopropyl alcohol is just as effective and cheaper.

What are the Disinfectant Chemicals?

Chlorine Solutions	Soak items in 0.5% for 10 minutes, OR 0.1% for 20 minutes (less damaging to metals). To make 0.1% solution, use boiled water.
Glutaraldehydes (Cidex)	Less irritating than formaldehydes. Protect from fumes (use in well ventilated area) and use gloves and eye protection.

NOTE: Glutaraldehyde stays on instruments so must rinse with **boiled** water **three** times before using instrument.

Make a Decontamination Solution from Concentrated Liquid Chlorine

1. Check percent concentration of the chlorine you are using
2. Decide total parts of water needed.

$$\cdot \text{ Total Parts (TP) water} = \left(\frac{\% \text{ Chlorine available}}{\% \text{ Chlorine Required}} \right) - 1$$

3. Mix 1 part concentrated chlorine with the total parts water needed

Example: Make a 0.5% solution from 5% concentrated solution

- Calculate TP water = $\left(\frac{5.0\%}{0.5\%} \right) - 1 = 10 - 1 = 9$
- Take 1 part concentrated solution and add to 9 parts water

Make a Decontamination Solution from Dry Powder Chlorine

1. Check percent concentration of powder you are using
2. Decide grams bleach powder needed

<ul style="list-style-type: none"> · Grams per liter = ($\frac{\% \text{ Chlorine required}}{\% \text{ Available chlorine powder}} \times 1000$
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3. Mix measured amount of powder with 1 liter of water

Example: Make a 0.5% solution from 35% concentrated powder

<ul style="list-style-type: none"> · Calculate grams/liter = ($\frac{0.5\%}{35\%} \times 1000 = 14.2 \text{ gms/ L}$
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- Add 14.2 grams or approximately 14 grams to 1 liter of water

4 STEPS OF PROCESSING INSTRUMENTS AND SUPPLIES

Step 1	Decontaminate	<ul style="list-style-type: none">• Kills viruses and many other germs• Makes items safer to handle during cleaning• Only use plastic container for decontamination solution, not metal• Prepare new decontamination solution every 24 hours or when solution begins to look cloudy• Soak item x 10 minutes in 0.5 % solution• Helps to use timer• Always use utility gloves to remove items
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4 STEPS OF PROCESSING INSTRUMENTS AND SUPPLIES

Step 2	Clean	<ul style="list-style-type: none">• Removes blood, other body fluids, tissue and dirt• Reduces the number of germs• Makes sterilization or high-level disinfection effective. If blood clot remains on instrument, germs in clot may not be completely killed by sterilization or HLD.
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4 STEPS OF PROCESSING INSTRUMENTS AND SUPPLIES

Step 3	High Level Disinfect (HLD)	<ul style="list-style-type: none"> • Kills all germs but not all endospores (tetanus) • Use for items having contact with broken skin / intact mucous membranes • If sterilization not possible, HLD only other choice • Can be done by boiling, steaming or chemical disinfection (soak in 0.5% chlorine solution x 20 minutes)
	<p style="text-align: center;">----- OR -----</p> <p style="text-align: center;">Sterilization</p>	<ul style="list-style-type: none"> • Kills all germs including endospores. • May not be possible to do in all settings. • Can be done by dry heat or wet heat (autoclave).

4 STEPS OF PROCESSING INSTRUMENTS AND SUPPLIES

Step 4	Store or Use	<ul style="list-style-type: none">• Use immediately• Store in a high level disinfected or sterile covered tray up to 1 week• Put label with expiration date• If autoclaved and wrapped: Good for at least 30 days unless something causes the package to become contaminated (package is torn or wet).
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