

Utica Park Clinic Clinical Back Office Orientation

Quality Improvement
UPC Education Center

Objectives

- Identify evidence-based measures of infection prevention and control
- Review and perform best practice methods of proper vital sign measurement
- Review best practice methods for lab and diagnostic procedures
- Identify evidence-based guidelines of safe medication and vaccine administration
- Review and perform best practice techniques of safe injection practices
- Identify evidence-based guidelines of safe medication and vaccine storage

Professional Scope of Practice

- Scope of practice
 - How do I know what is in my
- Clinical competencies
 - Baseline
 - Annual
 - Documented
- Clinical Responsibilities

Putting Into Practice Activity

Clinic Safety Scavenger Hunt



Infection Prevention

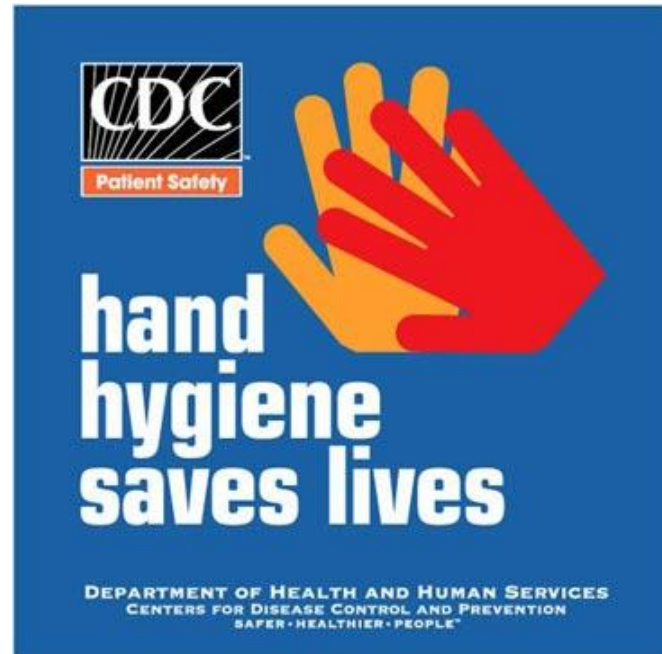


Infection Prevention

- Standard Precautions
 - Hand hygiene
 - PPE (personal protective equipment)
 - Safe injection practices
 - Environmental cleaning
- BBP Exposure Control Plan Elements
 - Work Place Practices



Hand Hygiene Guidelines



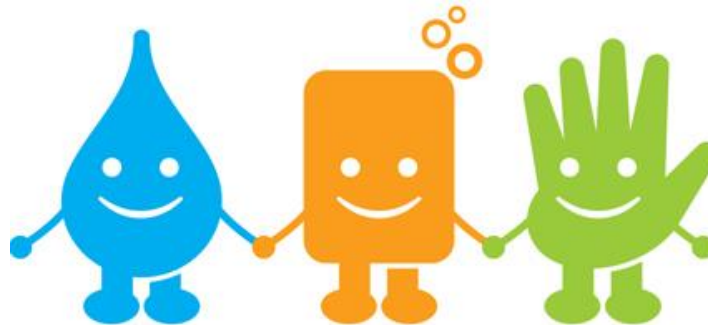
Putting Into Practice Activity

Glitter Bug Hand Hygiene Activity



Hand Hygiene Guidelines

- Hand washing with soap and water is to be used in the following circumstances:
 - Hands are *visibly* soiled
 - Hands are contaminated with blood, body fluids, or OPIM.
 - During outbreaks of C. difficile-related infections
 - Possible exposure to patient with C. difficile infection or contaminated items / surfaces
 - Exposure to B. anthracis – contaminated items



Hand Hygiene Guidelines

- Hand hygiene with an alcohol-based waterless antiseptic agent may be used for:
 - Routine hygiene when the hands are *not visibly* soiled
 - When the provision of hand washing is not feasible



Infection Prevention Q&A

Quiz the class!

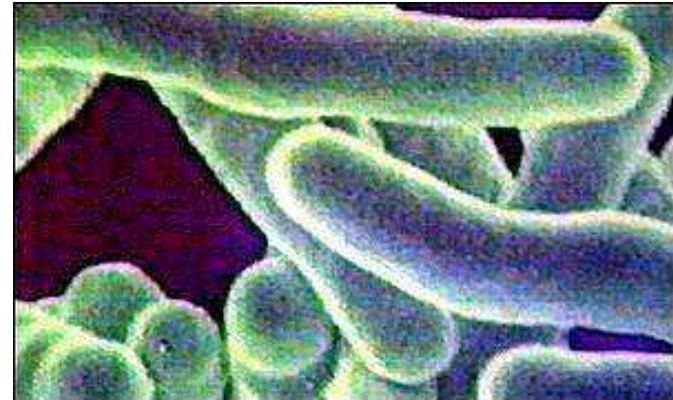
How long do you think MRSA can survive on a surface?



Infection Prevention

Survival Time on dry inanimate objects

- Methicillin-resistant *S. aureus*
 - 7 days to 7 months
- Vancomycin-resistant *Enterococcus*
 - 5 days to 4 months
- *C. difficile* spores
 - 5 months



Personal Protective Equipment (PPE)

- Goggles
- Face Shield
- Masks
- Gloves
- Impermeable Gowns
- Resuscitation Devices



Putting Into Practice Activity!

Quiz the Class!

- Responding to an emergency where blood is spurting?
 - Gloves, fluid-resistant gown, mask & goggles or a face shield
- Drawing blood from a vein?
 - Gloves
- Irrigating a wound?
 - Gloves, gown, mask & goggles or a face shield
- During a minor (but invasive) surgical procedure?
 - Gloves, gown, mask & goggles or face shield



Donning and Removing PPE

Quiz the class

1. What goes first when putting on PPE?

Gown

2. What comes off first when removing PPE?

Glove



Sharps Safety

- Sharps Safety
 - Hypodermic Needles
 - Scalpels
 - Sharp Surgical Scissors
 - Phlebotomy Needles
 - Lancets
- Never Recap Contaminated Needles or Sharps
- Use only Sharps with a built in safety feature

**THINK
SAFETY
FIRST**

- Dispose of immediately after use in a sharps container
- Sharps containers are emptied before $\frac{3}{4}$ full
- Sharps containers should be securely mounted to clinic room walls
- Keys to sharps containers should not be left in the sharps container

Environmental Cleaning

- **Clean and disinfect hard surfaces DAILY.**
- **Disinfect surfaces AFTER EACH PATIENT**
 - *EPA registered hospital grade disinfectants.*

Biohazardous Waste

- **Regulated Waste**
 - **Contaminated Waste**
 - **Contaminated Laundry**
 - **Contaminated Sharps (Sharps Containers)**





Vital Signs

Vital Signs

- Temperature
- Respirations
- Pulse
 - Radial
 - Apical
 - Blood Pressure
 - *HTN = >130/80 mm Hg (AHA 2017)*
 - Orthostatic Blood Pressure
- Pulse Oximetry (O₂ Saturation)
- Body Mass Index BMI (Adult)
- Height (initial patient visit and annually)
- Weight (every patient visit)



Putting Into Practice Activity

Letter Scramble

- **Communication** and **Team Work** are KEY!
- Each member of group must participate.
- You have 2 minutes to unscramble the word.

TIME STARTS NOW!!!

Blood Pressure Measurement

- **When measuring a blood pressure be sure to think PRESSURE:**
 - P: Place the patient in a chair with their back supported and both feet on the ground
 - R: Rest for 5 minutes before taking blood pressure
 - E: Elevate arm to heart level
 - S: Stop talking during blood pressure measurement
 - S: Support patient's back and arm
 - U: Use proper sized cuff
 - R: Remind patient to wear a loose fitting sleeve
 - E: Evaluate when patient last had caffeine or tobacco

Vital Sign Ranges: Adults

Vital Signs	Adult
Blood Pressure	>90/60 mm Hg <130/80 mm Hg
Pulse	60-100 bpm
SpO2	95-100 % RA
Respiratory Rate	12-16 bpm
Temperature	36.5-37.2 degrees Celsius



Remember
to treat the
patient, not the
monitor.

Vital Sign Ranges: Pediatrics

Respiratory Rate

Age	Breaths/min
<1 year	30-58
1 to 3 years	22-37
4-5 years	20-28
6-12 years	18-25
13-18 years	12-20

Heart Rate

Age	Awake Rate
Newborn	100-205
Infant	100-180
Toddler	98-140
Preschool	80-120
School-age	75-118
Adolescent	60-100

Measurement method	Normal temperature range
Rectal	36.6°C to 38°C (97.9°F to 100.4°F)
Ear	35.8°C to 38°C (96.4°F to 100.4°F)
Oral	35.5°C to 37.5°C (95.9°F to 99.5°F)
Axillary	34.7°C to 37.3°C (94.5°F to 99.1°F)

Vital Sign Ranges: Pediatrics

Blood Pressure

Age	Systolic BP (mm Hg)	Diastolic BP (mm Hg)	MAP (mm Hg) Mean Arterial Pressure
Birth (12 hrs, <1000g)	39-59	16-36	28-42
Birth (12 hrs, 3kg)	60-76	31-45	48-57
Neonate (96 hours)	67-84	35-53	45-60
1-12 months	72-104	37-56	50-62
1-2 years	86-106	42-63	49-62
3-5 years	89-112	46-72	58-69
6-7 years	97-115	57-76	66-72
10-12 years	102-120	61-80	71-79
12-15 years	110-131	64-83	73-84

Pulse

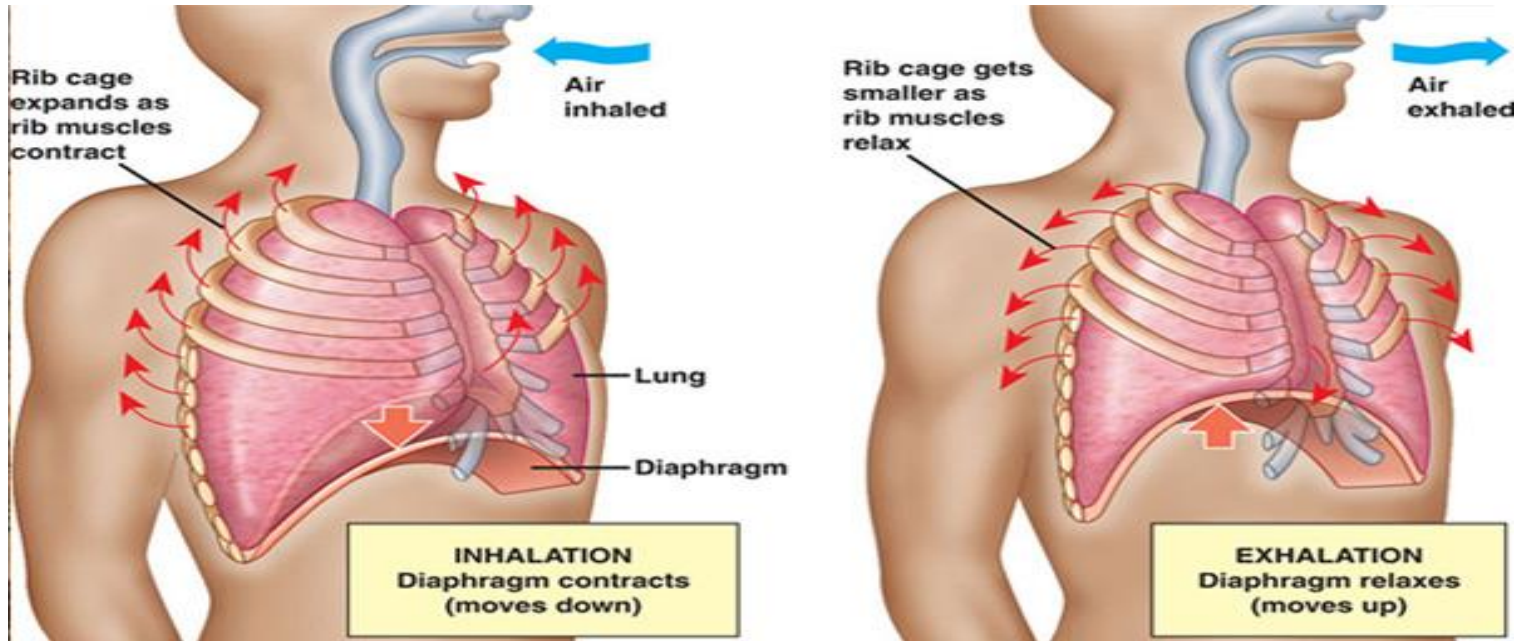
Taking a Pulse

Radial Pulse

Brachial Pulse

- What does a pulse rate indicate?
 - The rate at which heart forces blood through the arteries. Also known as the heart rate.
- Using the first and second fingertips, press firmly but gently on the arteries until you feel a pulse.
- Count the pulse for 60 seconds or for 15 seconds and then multiply by four to calculate beats per minute.

Respiratory Rate



- The respiration rate is the number of breaths a person takes per minute.
- The rate is usually measured when a person is at rest counting the number of times the chest rises.

Quiz the class

- No lab draws or blood pressures should be taken in patients with?



Blood Pressure Measurement

Do not take blood pressure in;

- Burn or injured extremity
- Mastectomy – affected site
- AV shunt – renal dialysis patients
- Paralysis (CVA)

Blood Pressure Measurement

Accurate and Reliable Results are important and depend on correct procedure.

- ✓ Body Position
- ✓ Cuff Size
- ✓ Cuff Placement
- ✓ Cuff Inflation / Deflation
- ✓ Well maintained equipment



Vital Signs

Tilt Test

Measure B/P and Pulse with patient Lying

- Lay flat (supine) at least 5 minutes then measure VS
- Good to do 2 sets of VS and use the last set

Measure B/P and Pulse with patient Sitting

- Sitting with legs dangling
- Support arm at heart level

Measure B/P and Pulse with patient Standing

- Remember to assist to this position
- Wait 1 minute, then check VS
- Support arm at heart level
- Re-measure VS after standing at least 3 minutes

Pulse Oximetry

Important Considerations

- ***Oximetry relies on detecting a stable pulse***
 - Manual pulse rate should coincide with the pulse rate on oximeter
 - Allow time (30-90 seconds) before taking the reading.
- ***The most common cause of inaccurate SpO₂ readings is movement***
 - Fingernail polish and pressed on nails
 - most commonly used nail polish does not affect oximetry readings
 - remove fingernail polish that contains metallic flakes
 - remove nail polish or place oximeter sensor on ear if you suspect erroneous readings
- ***Treat the patient not the monitor!!***

Pulse Oximetry



Important Considerations

- Right type of sensor
- Right site
- ***Never apply the pulse oximeter sensor on a finger of an arm during blood pressure measurement***

Labs and Diagnostic Procedures



All office staff should be aware of the method used for tracking test results, to prevent results from being filed back before review by the medical provider or before notification of the patient.

Labs and Diagnostic Procedures

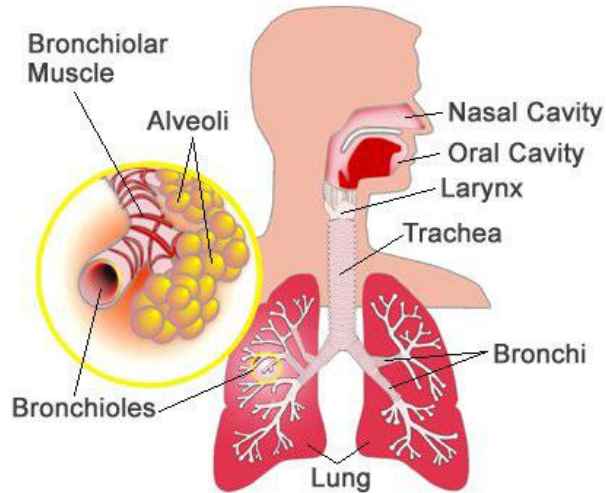
- The patient's identity should be verified before obtaining a lab specimen.
- Once the blood is drawn or a specimen is obtained, the tube or specimen container is labeled with the patient's name, identification number (date of birth), and number assigned to that specimen.
- ***It is essential to label the tube or specimen container properly with the patient present.***



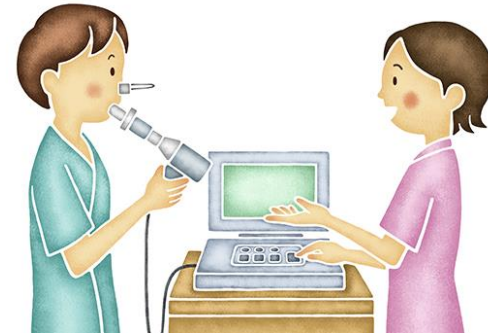
Labs and Diagnostic Procedures

- Diagnostic Test Results Notification: Unable to Contact the Patient
- Abnormal test results which require follow-up
- Normal Test Results

Spirometry: What is it?



The Importance of Spirometry



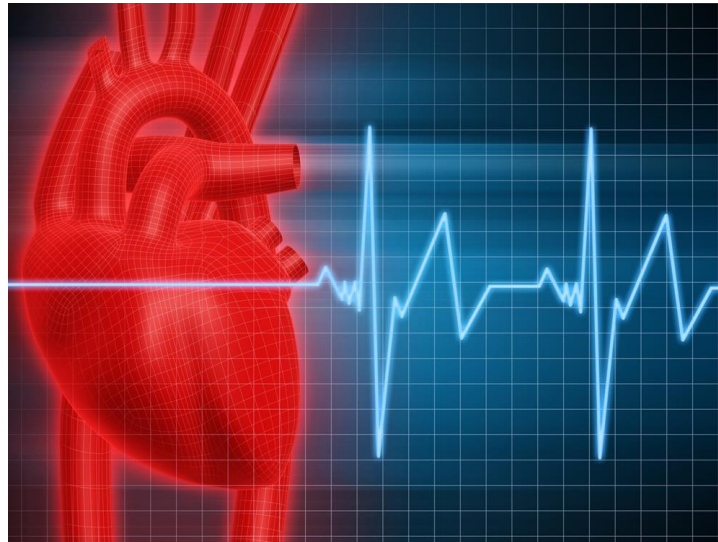
- A **Spirometer** is a medical device that **measures and records the volume of air inspired or expired after maximal inspiration.**
- Spirometry or PFT (Pulmonary Function Test) is a measurement of the rate lung volumes change during a forced breathing maneuver.
- Medical Provider will consider spirometry measurements, clinical history, other test results for **diagnosis and treatment plans.**

Steps to Reliable Results

- Accurate and reproducible results are crucial
 - 3 but 2 must be reproducible
- Obtain accurate information
 - weight, height, race, sex, and age. (Pre-set variables are built into machine to provide accurate data)
- Pre-test, patient preparation and instruction
 - Demonstrate
 - Coach
- QA check

Cardiopulmonary Procedures

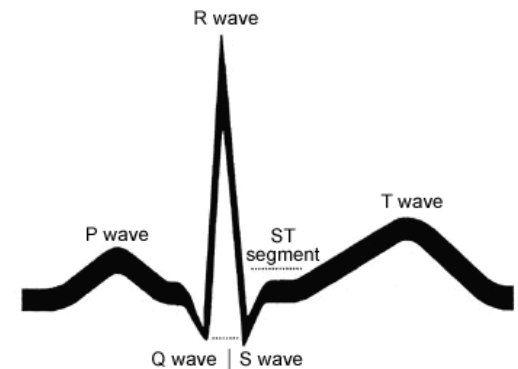
Electrocardiography serves as the gold standard for the noninvasive diagnosis of arrhythmias and conduction disturbances, and occasionally it is the only marker for the presence of heart disease.



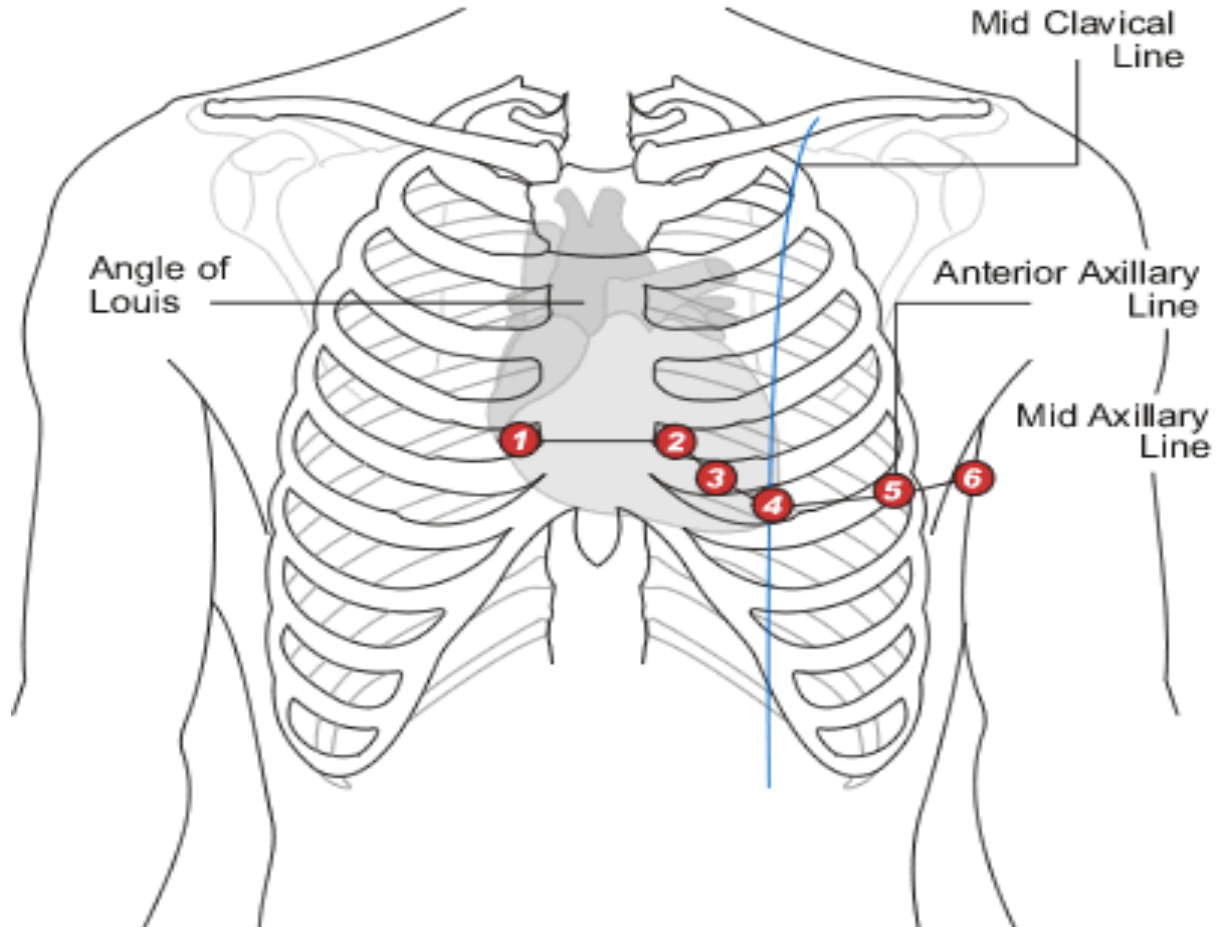
Electrocardiogram

12 Lead ECG/EKG

- The ECG can assist in detection of many cardiac abnormalities:
 - Dysrhythmias
 - Damage from Myocardial Infarction (MI)
 - Effect of Medications on heart, e.g. Digoxin / Lanoxin and other cardiac drugs.
 - Electrolyte Imbalances, e.g. Potassium (K⁺)
- Changes associated with cardiac processes
 - Coronary Artery Disease (CAD)
 - Hypertension (HTN)
 - Hypertrophy (enlargement)



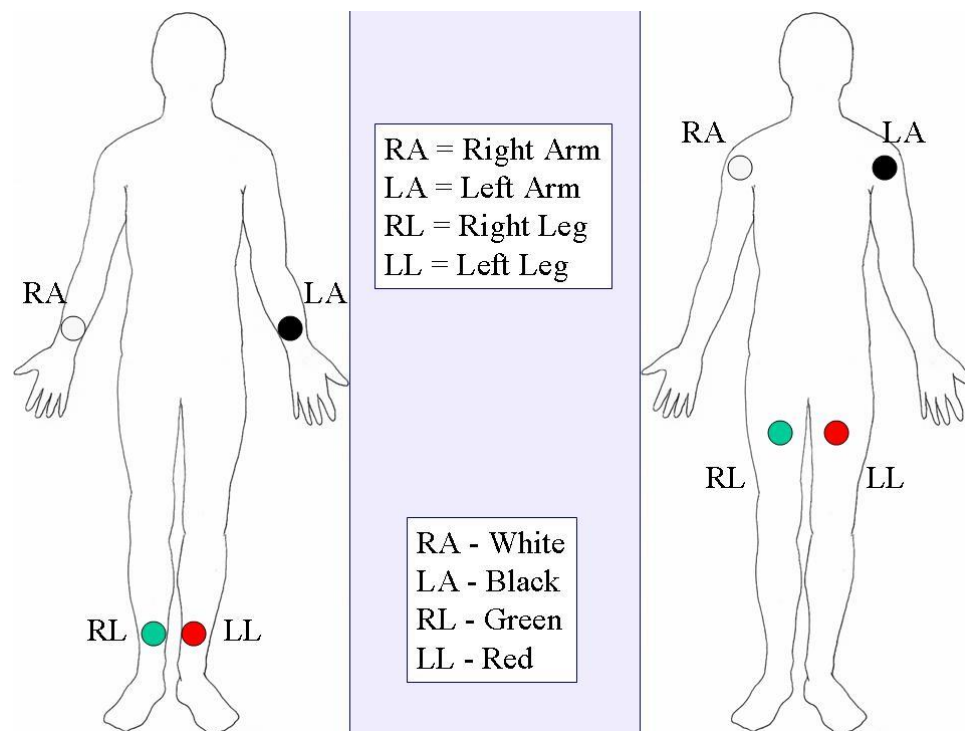
Lead Placement



Limb Lead Placement

Limb Leads (bipolar)

- **RA** - Right Arm
 - Inner Right Arm on wrist
- **LA** - Left Arm
 - Inner Left Arm on wrist
- **RL** - Right Leg – ground
 - Inner Right Leg above ankle
- **LL** - Left Leg
 - Inner Left Leg above ankle



Putting Into Practice Activity

EKG Placement



1. Lead placement
2. EKG work sheet

Medication and Safe Injection Practices



Medication Practices

- Medication Orders and Refills
- Reconstituted Medications and Vaccines
- Medication changes based on lab values
- Medication Review
- Verify allergies
- Medical Emergency
 - Anaphylactic Reaction
- Safe Injection Practices



Medication Practices

Medical Emergency

Signs and Symptoms of an Anaphylactic Reaction

MOUTH itching, swelling of lips and/or tongue

THROAT itching, tightness/closure, hoarseness

SKIN itching, hives, redness, swelling

GUT vomiting, diarrhea, cramps

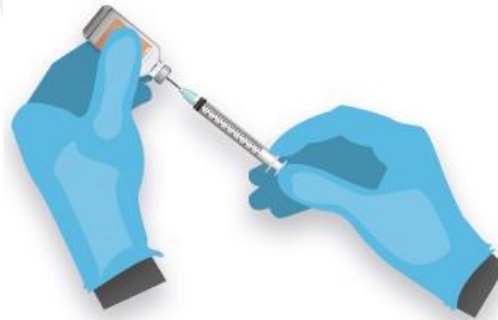
LUNG shortness of breath, cough, wheeze

HEART weak pulse, dizziness, passing out

ALWAYS follow aseptic technique when;



Disinfecting a vial's septum



Preparing any medication



Injecting any medications



NEVER reuse single use items!

REMEMBER! WHEN PREPARING MEDICATIONS AND INJECTIONS...

NEVER reuse these items:



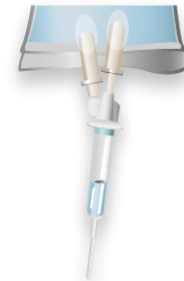
Needles or syringes that have been used for any purpose



Vials with "single-dose vial" printed on the label



Saline bags



Intravenous tubing



Putting Into Practice Activity

What are the **8 Rights of Safe Medication Practices?**

- Break into 2 groups
- You have 5 minutes to collaborate

utica park clinic

Validate *before* you Vaccinate

- Right Physician Order
- Right Patient
- Right Vaccine
- Right Time
- Right Dose
- Right Route
- Right Technique
- Right Documentation

If there is *no documented or standing
physician-APP order*

***DO NOT* ADMINISTER VACCINE!**

INTRAMUSCULAR (IM) INJECTIONS

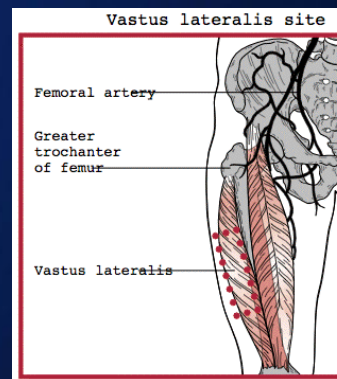
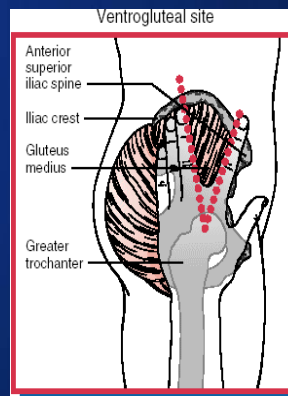
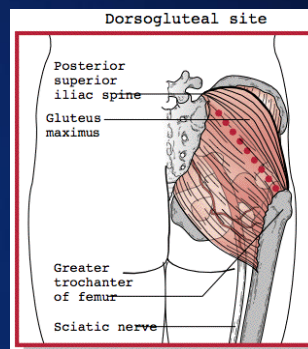
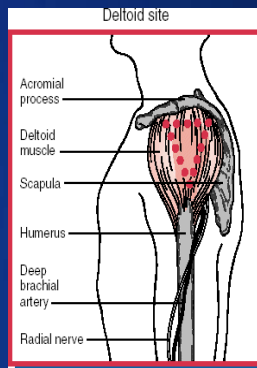
IM INJECTION SITES

Deltoid

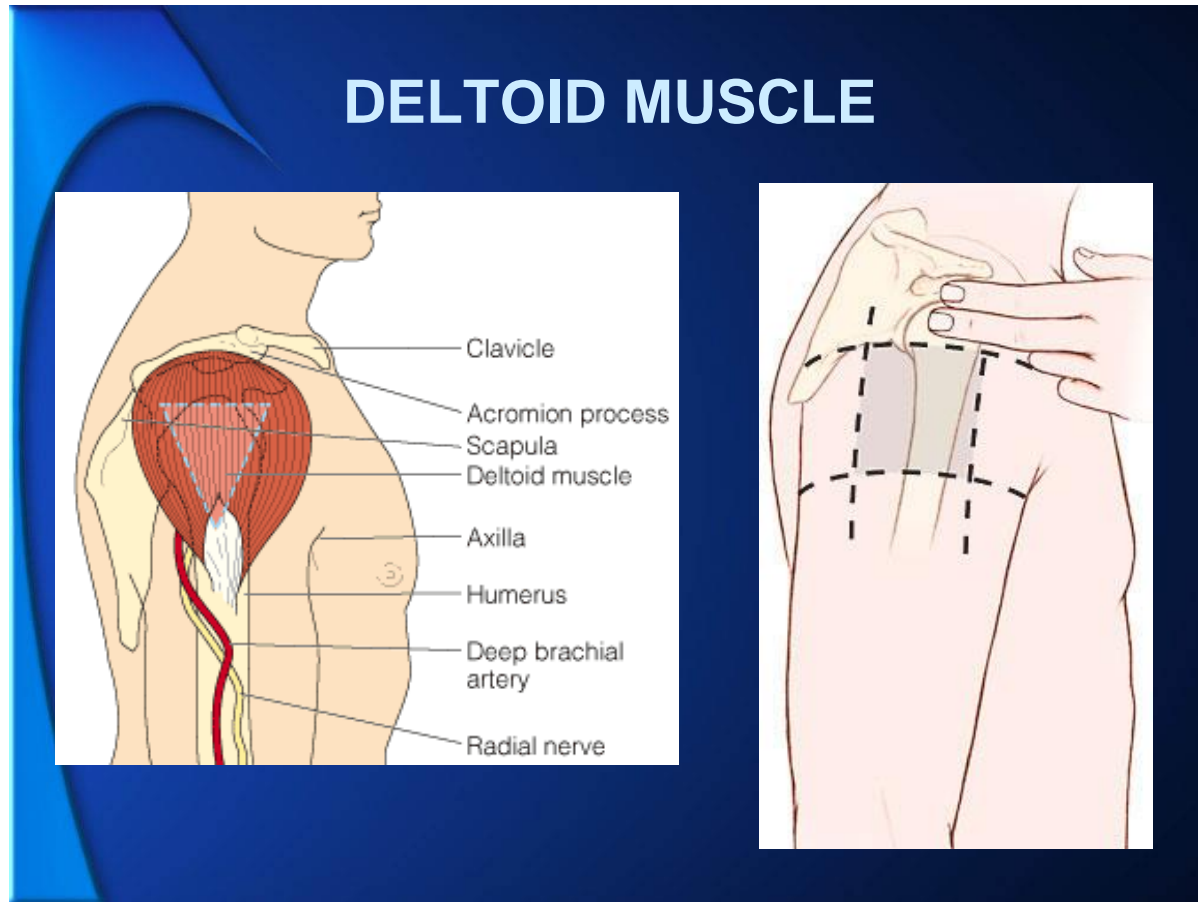
Dorsogluteal

Ventrogluteal

Vastus lateralis

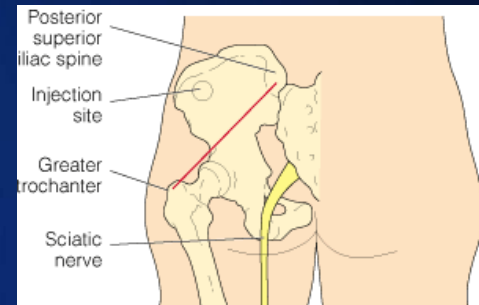
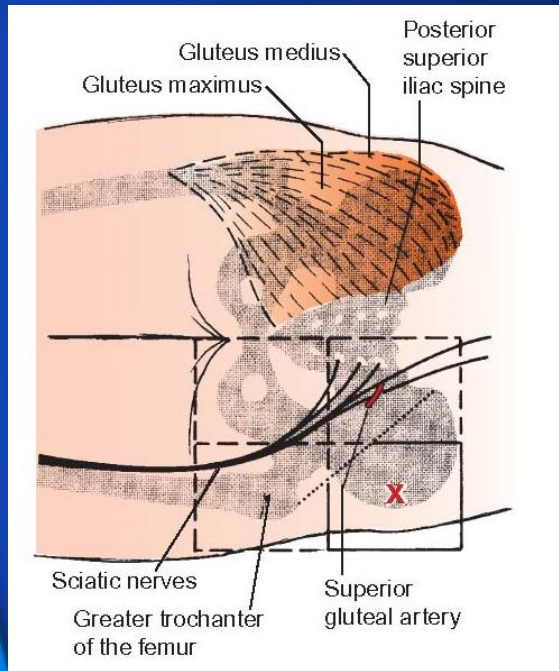


DELTOID INTRAMUSCULAR (IM) INJECTION

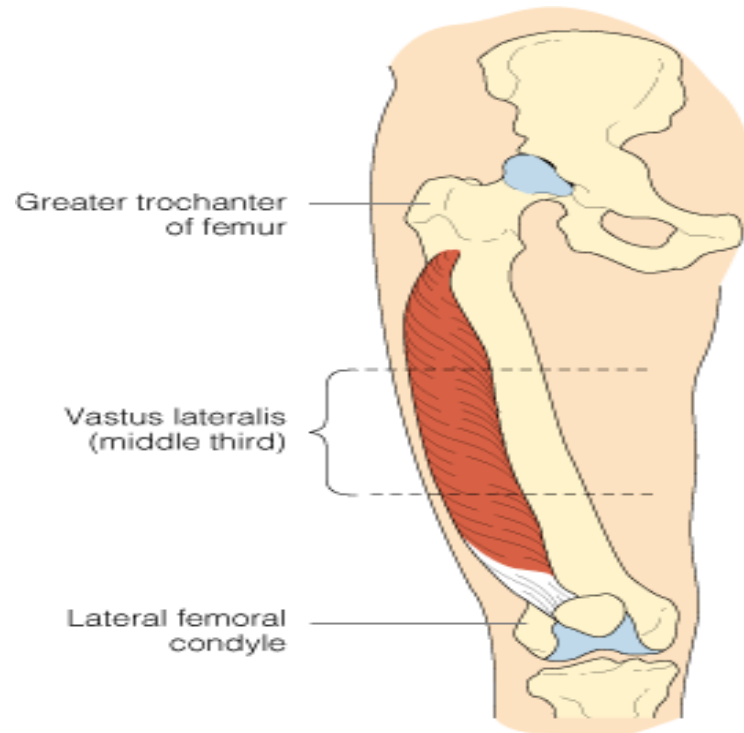


DORSAL GLUTEAL INTRAMUSCULAR (IM) INJECTION

GLUTEUS MAXIMUS

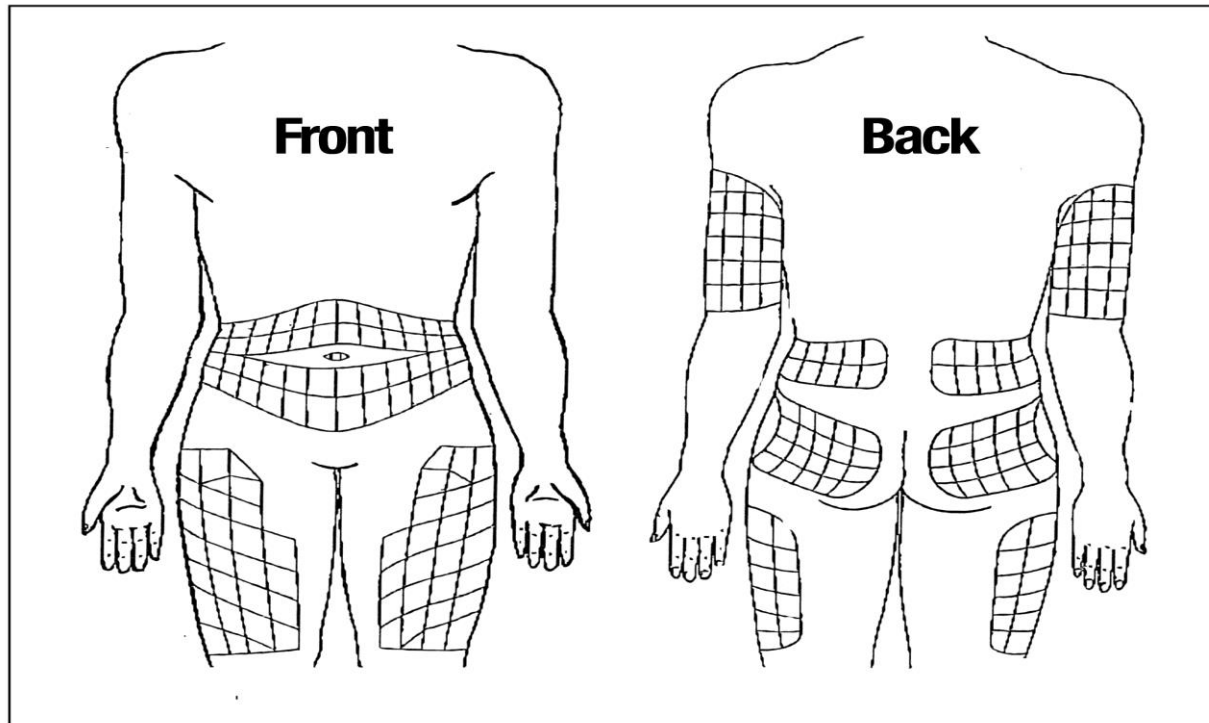


Vastus Lateralis Intramuscular



- Locate by identifying the greater trochanter and lateral femoral condyle. Injection site is the middle third and anterior lateral aspect of the thigh.

Insulin Injection Site Selection



Medication Storage

- Should not be easily accessible to patients or clinic visitors
- Organize and check expiration dates **MONTHLY**
- Keep similar medications together
- Check expiration dates monthly
- Organize with the newest medications to the back
- Remove expired medications
- Vaccine Storage and handling Guidelines should be followed in accordance to CDC standards

Sample Medications



Don't forget the Sample Closet!

Don't depend on the drug reps to clean out your sample closet. Check and rotate **monthly!**

Vaccine Administration

Reconstituting Vaccines

- Some vaccines are prepared in a lyophilized form that requires reconstitution, which should be done according to manufacturer guidelines. After reconstitution continue with standard medication preparation guidelines.
- *Diluent solutions vary; **use only the specific diluent supplied for the vaccine.***
- *Follow Manufacturer's Vaccine Specific Guidelines for Reconstitution or mixing a vaccine.* Some vaccine diluents are not interchangeable. There are some combination vaccines that the diluent contains another vaccine.

Vaccine Administration

Reconstituting



Cleanse vial stopper with alcohol pad



Draw up air in syringe equal to dose



Push needle straight into center
Of rubber and push air into vial



Invert vial and syringe and draw
up diluent



Inject diluent directly into vaccine vial



Mix well



Withdraw reconstituted vaccine
into syringe

Reconstituted Medications and Vaccines

- Medications and vaccines that have been reconstituted should only be used per the manufacturer's recommendations.
 - Always dispose of appropriately at end of clinic day if unused.
 - Many vaccines must be used within a very short time frame after reconstitution (e.g., Varicella and Zoster must be used within 30 minutes after reconstitution).

Reconstituting Vaccines

- Diluent solutions vary; use only the specific diluent supplied for the vaccine.
- Cleanse vial stopper with alcohol pad
- Draw up air in syringe equal to dose
- Push needle straight into center of rubber and push air into vial
- Invert vial and syringe and draw
- Inject diluent directly into vaccine vial
- Mix well up diluent
- Withdraw reconstituted vaccine into syringe
- Under no circumstances should MMR, varicella, or zoster vaccines ever be reconstituted and drawn prior to the immediate need for them. These live virus vaccines are unstable and begin to deteriorate as soon as they are reconstituted with diluent.

Vaccine Administration

- Once a vaccine is drawn into a syringe, each syringe should be labeled with the contents.
- ***The CDC strongly discourages filling syringes in advance.***
- Prefilling syringes may contribute to:
 - ✓ Administration errors
 - ✓ Difficulty identifying the type or brand of vaccine
 - ✓ Vaccine wastage
 - ✓ Possible bacterial growth in vaccines that do not contain a preservative

Look Alike, Sound Alike! Proceed with Caution!



Tdap or DTaP
Pertussis is widespread—are your patients protected?

Tdap: Tetanus toxoid, Reduced Diphtheria toxoid, Acellular Pertussis vaccine **For Those Age 7 Years or Older**

ADACEL™ (sanofi pasteur)

Boostrix® (GlaxoSmithKline)

DTaP: Diphtheria and Tetanus toxoid, Acellular Pertussis vaccine **For Those Ages 6 Weeks Through 6 Years**

DTaP only

DAPTACEL® (sanofi pasteur)

Infanrix® (GlaxoSmithKline)

Combination: DTaP + Others

DTaP + HepB + IPV
Pediarix® (GlaxoSmithKline)
Ages 6 weeks through 6 years

DTaP + IPV + Hib
Pentacel® (sanofi pasteur)
Ages 6 weeks through 4 years

DTaP + IPV
Kinrix® (GlaxoSmithKline)
Ages 4 years through 6 years

Use Tdap or DTaP to stop pertussis. For more info, visit EZIZ.org

California Department of Public Health, Immunization Branch
This publication was prepared by Carol Runkler MD/2012 from the Centers for Disease Control and Prevention (CDC). It contains only the responsibility of the authors and does not necessarily represent the official views of CDC. MM-528 (5/12)

Instructions for the Use of Vaccine Information Statements

Required Use

1. Provide a Vaccine Information Statement (VIS) when a vaccination is given.

As required under the National Childhood Vaccine Injury Act (42 U.S.C. §300aa-26), all health care providers in the United States who administer, to any child or adult, any of the following vaccines — diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib), influenza, pneumococcal conjugate, meningococcal, rotavirus, human papillomavirus (HPV), or varicella (chickenpox) — shall, prior to administration of each dose of the vaccine, provide a copy to keep of the relevant current edition vaccine information materials that have been produced by the Centers for Disease Control and Prevention (CDC):

- to the parent or legal representative¹ of any child to whom the provider intends to administer such vaccine, or
- to any adult² to whom the provider intends to administer such vaccine.

If there is not a single VIS for a combination vaccine, use the VISs for all component vaccines.

VISs should be supplemented with visual presentations or oral explanations as appropriate.

2. Record information for each VIS provided.

Health care providers shall make a notation in each patient's permanent medical record at the time vaccine information materials are provided, indicating:

- (1) the edition date of the Vaccine Information Statement distributed, and
- (2) the date the VIS was provided.

This recordkeeping requirement supplements the requirement of 42 U.S.C. §300aa-25 that all health care providers administering these vaccines must record in the patient's permanent medical record (or in a permanent office log):

- (3) the name, address and title of the individual who administers the vaccine,
- (4) the date of administration, and
- (5) the vaccine manufacturer and lot number of the vaccine used.

¹ "Legal representative" is defined as a parent or other individual who is qualified under State law to consent to the immunization of a minor child or incompetent adult.

² In the case of an incompetent adult, relevant VISs shall be provided to the individual's legal representative. If the incompetent adult is living in a long-term care facility, all relevant VISs may be provided at the time of admission, or at the time of consent if later than admission, rather than prior to each vaccination.

Applicability of State Law

Health care providers should consult their legal counsel to determine additional State requirements pertaining to immunization. The Federal requirement to provide the vaccine information materials supplements any applicable State laws.

Availability of Copies

Copies are available in English and many other languages from CDC's website at www.cdc.gov/vaccines/pubs/vis. Single camera-ready copies may also be available from State health departments.

Current VIS Editions

DTaP/DT: 5/17/07	Meningococcal ACWY: 3/31/16
Hib: 4/2/15	Serogroup B Meningococcal (MenB): 8/9/16
Hepatitis A: 7/20/16	Pneumococcal (PCV13): 11/5/15
Hepatitis B: 7/20/16	Polio: 7/20/16
HPV (Gardasil): 5/17/13 ¹	Rotavirus: 4/15/15
HPV (Gardasil-9): 12/2/16	Td: 2/24/15
Influenza (inactivated): 8/7/15	Tdap: 2/24/15
Influenza (live): 8/7/15	Varicella: 3/13/08 ²
MMR: 4/20/12 ³	Multi-Vaccine*: 11/5/15
MMRV: 5/21/10 ⁴	

* An optional Hepatitis A (HepA) vaccine (children 12 years of age and older) is also available for children 12 years of age and older. It is not included in this table.

December 2, 2016
Reference: 42 U.S.C. §300aa-26



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Vaccine Storage and Handling

QI/Vaccine Coordinator

MEDICATION STORAGE & HANDLING

- Medications and vaccines are to be stored per manufacturer's recommendations (refer to package inserts)
- Medications and syringes should be stored in areas that have restricted access or be kept locked so that they are not accessible to patients or visitors.
- Medication storage areas and refrigerator / freezers should be kept clean and organized.
- Inappropriate (non-drug) items should not be stored in medication areas or medication refrigerators. Examples include lab specimens, food, drinks and/or batteries

MEDICATION STORAGE & HANDLING

- Post Refrigerator / Freezer Temperature Log and Storage Troubleshooting Record on Refrigerator door.
- Check temperature on refrigerators and freezers (if vaccines are stored in freezer) 1 time daily and document on temperature log.
- Take immediate action on temperatures out of range to correct problem, document action taken on the Storage and Troubleshooting Record, and report to office manager.

Insulin Storage

- **Insulin vials in use may be kept at room temperature (59-86 degrees) but should be discarded in 28 days (42 days for Novolin R, N and Novolin 70/30 and Levimir)**
- Vials of insulin not in use should be refrigerated.
- To prevent loss of potency, clumping, frosting, or precipitation.
 - Avoid Extreme temperatures (<36 or >86°F, <2 or >30°C)
 - Avoid Excess agitation Specific storage guidelines provided by the manufacturer should be followed.

Handling Multi-dose Vials

- Multi-dose vials should be labeled with date opened.
 - Refer to manufacturers' recommendations for each product.
 - Some vaccines and medications can be used until the expiration date on the vial – others expire within a specified time period after opening. Examples: Tuberculin and Insulin expires 29 - 30 days after opening.

Reconstituted Medications and Vaccines

- Medications and vaccines that have been reconstituted should only be used per the manufacturer's recommendations.
 - Always dispose of appropriately at end of clinic day if unused.
 - Many vaccines must be used within a very short time frame after reconstitution (e.g., Varicella and Zoster must be used within 30 minutes after reconstitution).

Refrigerated Vaccines and Medications

ACCEPTABLE TEMPERATURE RANGES

Refrigerator 35-46 degrees F (2-8 degrees C)

Freezer -58 degrees F \leq 5 degrees F

(-50 C \leq 15 degrees C)



Vaccine Storage

- Stand alone refrigerator and freezer are recommended for proper vaccine storage.
- Each vaccine storage unit should have 2 certified and calibrated thermometers both should be a Log Tag thermometer. As back up thermometer not in use is also recommended for emergency back up
- Recording in degrees Fahrenheit.
- The thermometers should be stored in the middle of the storage unit away from vents or fans.

Vaccine Storage

- No food, medications or lab specimens should be stored in the vaccine storage unit.
- No vaccines should be stored in storage unit doors or bins.
- Weekly download of temperatures is required.
- Temperature checks should be performed and documented once daily. All temp logs should be kept for at least 3 years
- Vaccines should be stored in vented baskets in original manufacture box and the vaccines should be clearly labeled

Medication Refrigerator Storage Accident / Emergency Plan

- An emergency plan should identify designated personnel and back-up personnel responsible for handling vaccine storage emergencies. Such as:
 - Improper Storage
 - Power Outages

Questions or comments?

Please contact
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