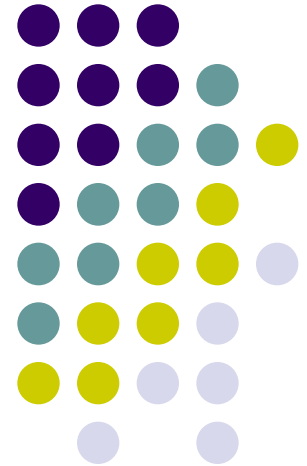


Body Mechanics

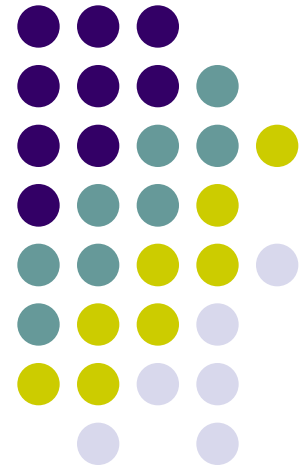


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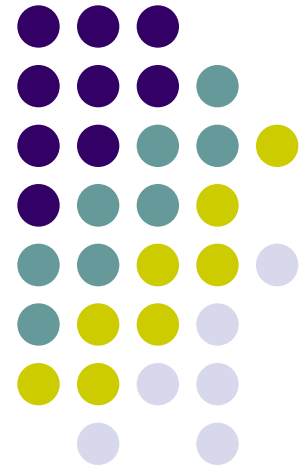
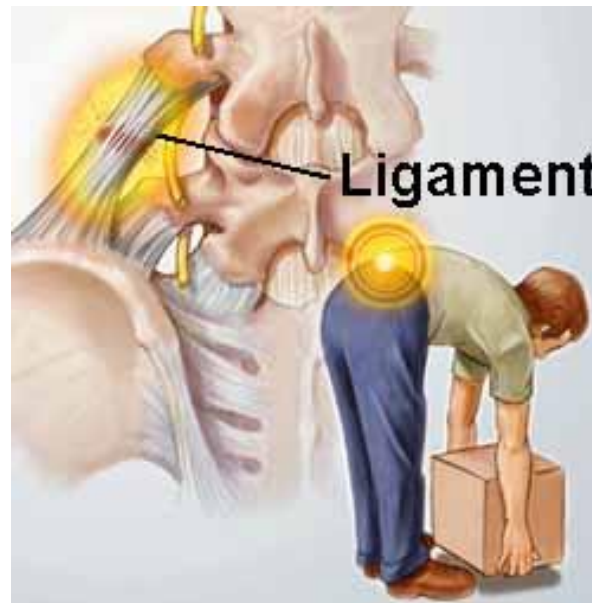
Review Last Lecture

- DOCUMENTING / ASSESSING WOUNDS:
 - Location & Shape
 - Size
 - Tissue type
 - Exudate (drainage)
 - Presence or absence of tunneling
 - Treatment
 - Stage
 - Pain or sensation



Why Learn about Proper Body Mechanics?

- Ensures clinician and patient safety
- Places less stress and strain on the body, preventing injury
- To conserve energy

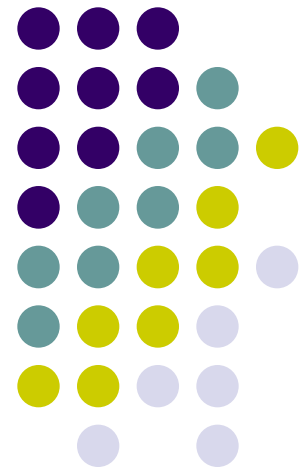


Body Mechanics

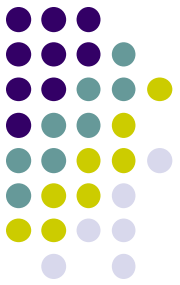
- **Definition**: the use of one's body to produce motion that is:

- safe,
- energy conserving,
- and efficient,

all of which allows the person to
maintain balance and control

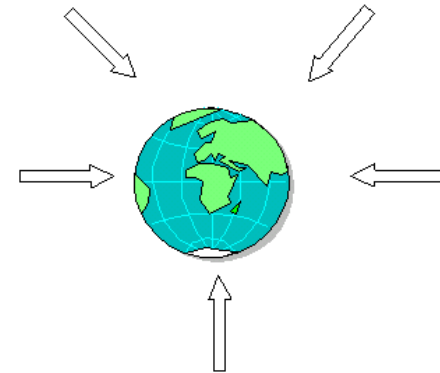


Terminology



- **Gravity:**

- The force that pulls toward the center of the earth and affects all objects

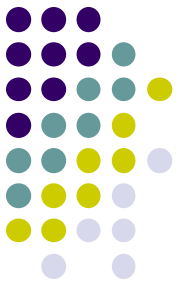


- **Friction:**

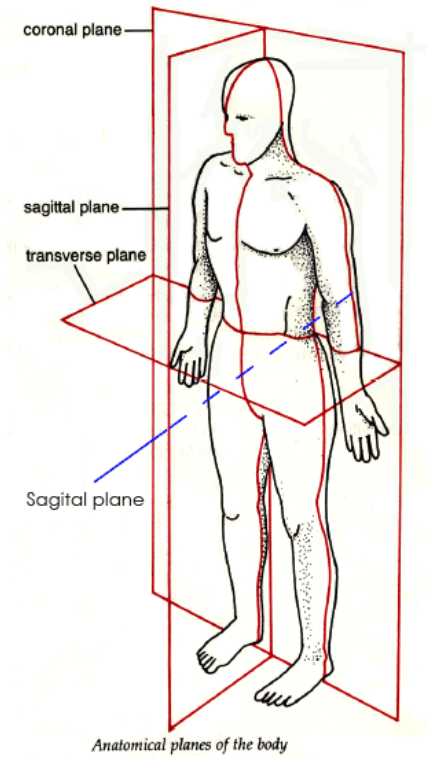
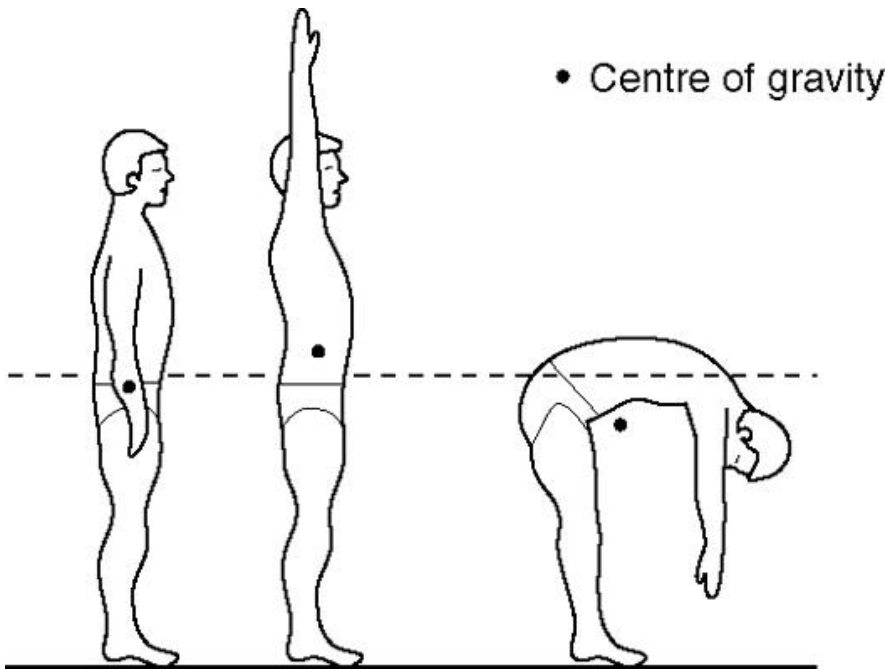
- The act of rubbing one object against another.



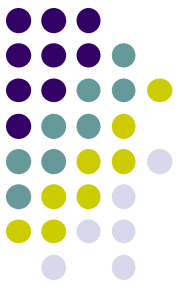
Terminology



- **Center of gravity (COG):**
 - The point at which the mass of a body or object is centered; when weight on all sides is equal



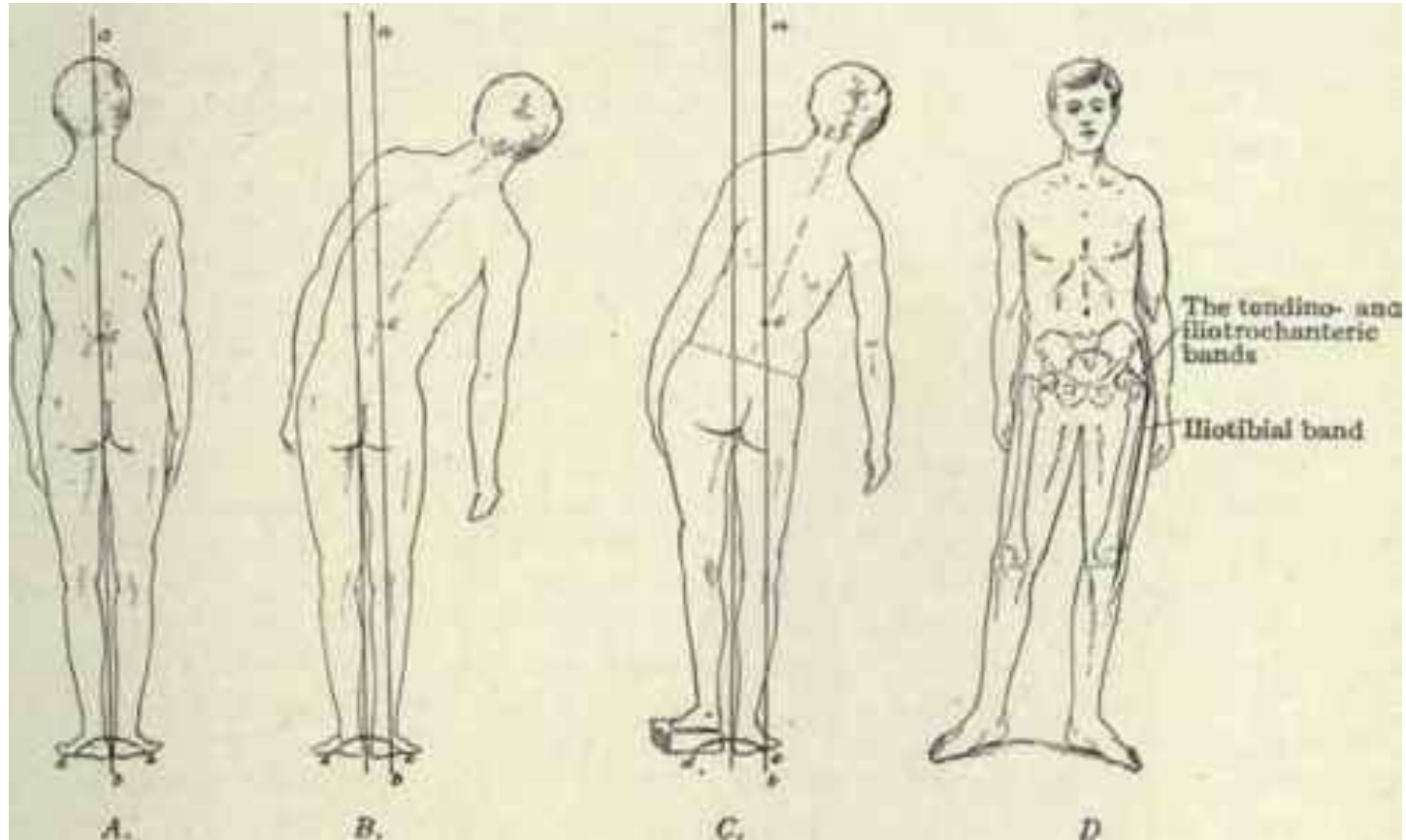
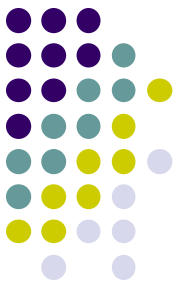
'Brukner and Kahn, 2005'

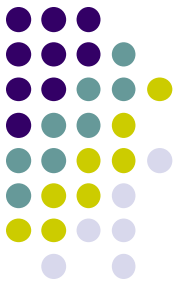


Terminology

- **Base of Support (BOS):**
 - Area on which an object rests and that provides support for the object
- **Line of Gravity:**
 - The vertical line between the center of gravity and the ground
 - Must fall within the BOS if the “body” is to stay upright
 - May be shifted

Line of Gravity

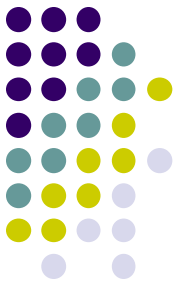




Proper Body Mechanics

- Gravity & Friction are forces that add resistance to many activities
 - lifting, reaching, pushing, pulling, and carrying an object.
- Select and use techniques that:
 - reduce the adverse effects of gravity or friction
 - and/or enhance the positive effects of these 2 forces.

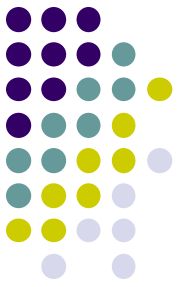
Principles of Body Mechanics



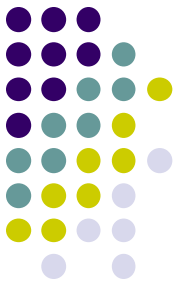
- Remain **close** to the object
- Use **short lever arms** for better control & efficiency (with less strain)
- Maintain your COG **close** to the object's (or patient's) COG



Principles Continued

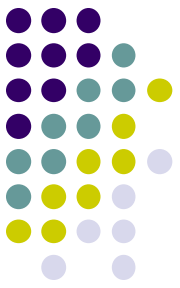


- **Widen your BOS** and position your feet according to the direction of movement you will use to perform the activity
- **Use the largest & strongest muscles** of your arms, legs and trunk
- **Avoid twisting** your body when you lift
- When possible, push, pull, roll, or slide an object rather than lifting it



Principles in Summary

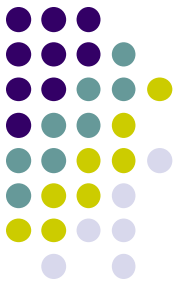
- Position yourself close to an object or position the object close to you
- increase your BOS, and approximate the COG of your body close to the object's COG before attempting to lift, pull, reach or carry an object



Preparation

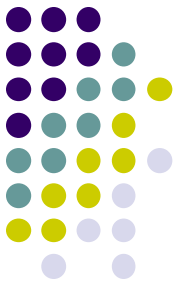
- Prepare yourself mentally & physically
- What is the best method to move the object?
- All obstacles should be removed so there is a clear path from point A to B
- Determine the distance
- Determine the need for assistance
- Determine the final location of the object (or patient)
- Gravity and momentum should be used whenever possible

Improving efficiency & safety



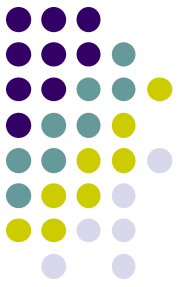
- The patient and anyone assisting you must be given instructions regarding their responsibilities prior to the move (what, how and when to...)
- Give your full attention to the activity
- Anticipate the unusual or unexpected
- Be prepared to increase your assistance to maximal effort at any time
- Use of equipment can make transfers easier & safer
- Consider your ability & limitations

Basic Principles

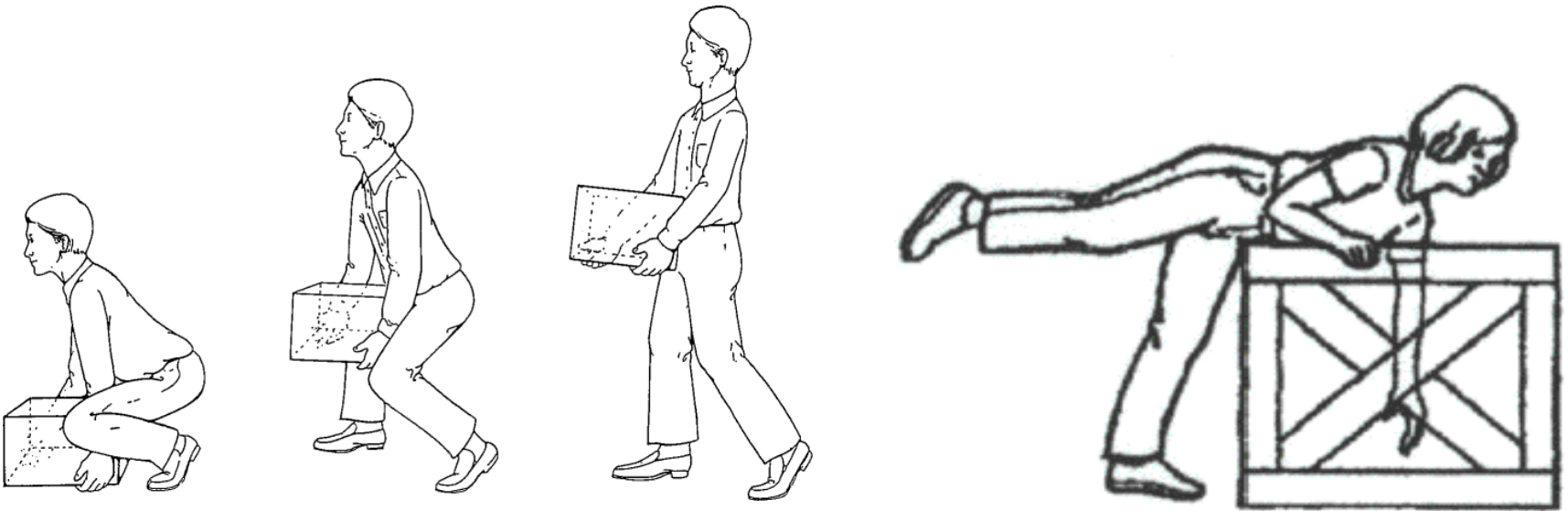


- Instruction
 - BE SAFE
 - Be clear
 - Be consistent
 - Be positive!
- And remember, you are working with another human being!

Lifting



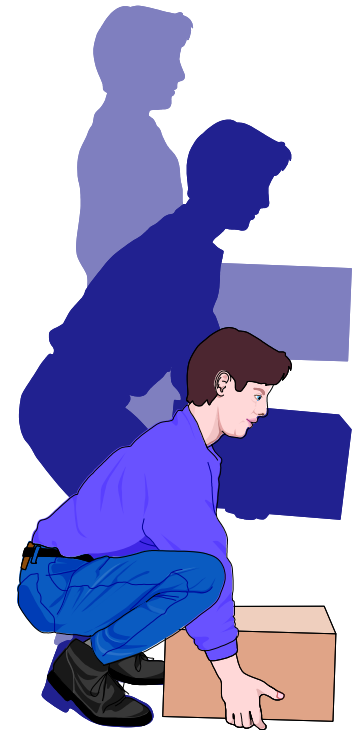
- Traditional Lift Model
- Golfer's Lift (one-leg stance lift)



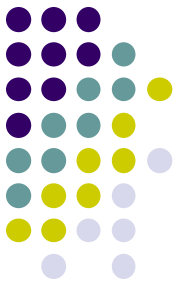
Proper Technique Traditional Lift



- Get close to the object (approximate COGs)
- Widen your BOS
- Contract Transverse Abdominis & PFM
- Keep your back straight and squat with the legs
- Use arms to lift object to waist level
- Rise to an upright position using the legs



Lowering the Object



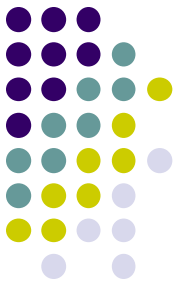
- Do not twist your back
- Use your feet to turn and square away
- Get close to the landing surface (COG)
- Widen your BOS
- Lower the object by bending your knees



Golfer's Lift

- This can be used for light objects that can easily be lifted with one UE
- Face the object to be lifted with one foot slightly forward of the other
- Shift weight onto forward leg and flex the hip and knee, lowering the body
- The NWB LE is extended to keep the spine from flexing
- Pick the object up and return to an upright position

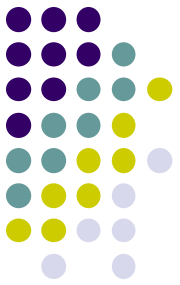
Review of Body Mechanics



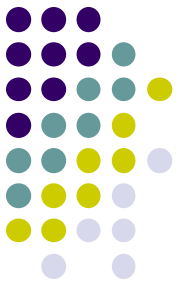
- Why learn body mechanics?
- Principles of Body Mechanics...
- How to prepare...
- Traditional Lift Model
- Golfer's Lift

Next:

- Bed Mobility and Patient Transfers



Questions??



- Minor, M.A., Minor, S., (2006), Patient Care Skills, 6th ed. Pearson Prentice Hall: Upper Saddle River, NJ.
- Pierson, F.M., (1999), Principles and Techniques of Patient Care, 2nd ed. W.B. Saunders Company: Philadelphia.