

ESS 349 Lab Manual

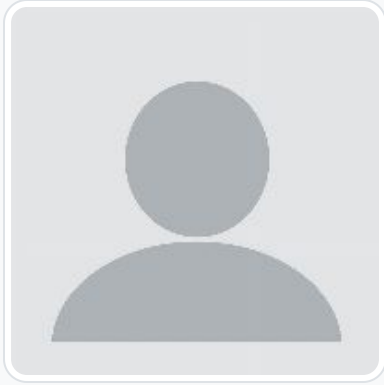
Jodi Howard

Table of Contents

Terminology	1
Stretching	3
HIPAA	5
HOPS	7
SOAP Notes	9
Universal Precautions	11
Wound Care	13
Blisters	15
P.R.I.C.E.	17
Thermotherapy Notes	19
Cryotherapy Notes	21
Neutral Therapy Notes	23
Game Ready Chart	25
Bob-Dog	27
Modality Chart	29
Heat Modalities	33
Diathermy	35
Hot Packs	37
Paraffin Bath	39
Ultrasound	41
Massage	43
Cold Modalities	45
Ice Bag	47
Moist Ice Pack (Bob Dog)	49
Ice Cups	51
Game Ready	53
Therapeutic Modalities	55

Interferential Current	57
Therma/Cryo Stim Probe	59
Light Pad	61
Pre-Mod	63
Patient Positioning	65
Preventative Ankle Taping	67
Phases of Rehabilitation	69
Rehab Tools	71
Hypervolt User Guide	75
Ankle HOPS Notes	79
ANKLE HOPS	81
Palpations	83
Special Tests	87
How to Use a Tape Shark	89
Arch Taping	91
Patellar Tendon Taping	93
Wraps	95
Horseshoe Wrap	97
KNEE HOPS	99
Palpations	101
Special Tests	105
Crutch Fitting	107
SHOULDER HOPS	109
Palpations	111
Special Tests	115
Additional Tape Jobs	117
Concussion Education	119
Wiihab	125
Kinesio Tape	127
3" Powerflex Ankle	129

HOPS Rubrics	131
Ankle Grading Rubric	133
Knee Grading Rubric	137
Shoulder Grading Rubric	141



Jodi Howard



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Terminology

Abduction: Movement away from the midline of the body

Acute: Sudden onset of symptoms

Adduction: Movement toward the midline of the body

Analgesic: Remedy that relieves or lessens pain

Anterior: Referring to or towards the front of the body

Chronic: Continuous and repetitive symptoms

Concentric: A type of muscle contraction where the muscle belly shortens

Contralateral: Referring to the opposite side of a specific structure

Deep: Away from or below the surface

Dorsal: On or relating to the upper side or back

Distal: Farther away from a point of reference or attachment

Edema: Excess of fluid collection in tissue

Eversion: To turn outward

Extension: Straightening movement that increases the angle between body parts

Flexion: Bending movement that decreases the angle between body parts

Inferior: Below

Inversion: To turn inward

Ipsilateral: Referring to the same side as a specific structure

Isometrics: Physical exercises in which muscles are caused to act against each other or against a fixed object

Lateral: Farther from the midline of the body

Medial: Close to the midline of the body

Posterior: Referring to or towards the back of the body

Prone: With the front surface down

Proximal: Nearer to the point of reference or attachment

Range of motion (R.O.M.): The full potential movement of a joint

Sprains: Stretching or tearing of ligaments, which connect a bone to another bone

Strains: Stretching or tearing of muscle or tendons, which connect muscle to bone

Superficial: Toward, at, or pertaining to the surface

Superior: Above

Supine: With the front surface upward

Ventral: Pertaining to the front, anterior, or belly



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Stretching

Active: Active stretching is achieved by relaxing the target muscle and relying on contraction of the opposing muscle to initiate the stretch. This stretch can be challenging because of the muscular force required to generate the stretch.

Passive: Passive stretching uses outside assistance to help achieve a stretch, the target muscle is relaxed, and the external force helps hold the stretched position. If the external force causes a greater stretch than the flexibility of the muscle, there is an increased chance for injury.

Ballistic: Momentum is used to attempt to force a joint beyond its normal range of motion. This is achieved by repetitively bouncing in the stretched position. This stretching technique can often lead to injury if the athlete is untrained or has a low level of flexibility because the force applied to the stretched muscles is greater than the muscles' extensibility. The stretched muscle is also not allowed to adjust and relax in the stretched position.

Static: A form of stretching in which the muscle is placed into a maximally stretched position and then held there for a certain amount of time. This technique can be done actively and passively and is a safe and effective technique to improve flexibility.

PNF: "Proprioceptive Neuromuscular Facilitation" is a stretching technique that involves a combination of alternating contractions and stretches. This stretch is often considered the best at long term increased R.O.M. There are three different PNF stretching techniques that can be used. All three techniques should be preceded and followed by a 30 second passive stretch. 30-10-30 Techniques:

- Hold-relax

Hold and resist force applied by partner, causing a 10 second isometric contraction in the target muscle group.

- Contract-relax

Apply resistance, counteracting force of concentric contraction of target muscle group, slowly allowing it to go through its ROM for 10 seconds

- Hold-relax-contract

Concentrically contract the opposing muscle group of the target muscle group that is being stretched for 10 seconds





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HIPAA

The Health Insurance Portability and Accountability Act regulates how private health information is handled and who information can be shared with. Under this act any medical information cannot be shared with outside sources, unless approved by the patient/athlete.



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HOPS

An acronym that stands for History, Observations, Palpations, and Special Tests. This acronym is helpful in the use of treating an athlete after an injury. It allows for the gathering of information that may be helpful in knowing exactly how to treat the specific injury that has occurred. Often used in an initial assessment setting.



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Evaluation Ankle Soap Note				
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SUBJECTIVE: Present history/Chief Complaint/Mechanism of Injury 				
Past Medical History 				
OBJECTIVE: Presentation/Observation/Manipulation 				
ROM				
Body Part	Movement	Right (degrees)	Left (degrees)	WNL
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often in a secondary assessment or clinical setting. It stands for Subjective, Objective, Action, and Plan.

Objective: Pertains to the observations, palpations, and special tests.

Swelling/Edema Pallor/Erythema Deformity Bruising

Action: What treatment is going to be performed on the athlete at that immediate moment, as well as an assessment of what the pathology could be based upon the Subjective and Objective information.

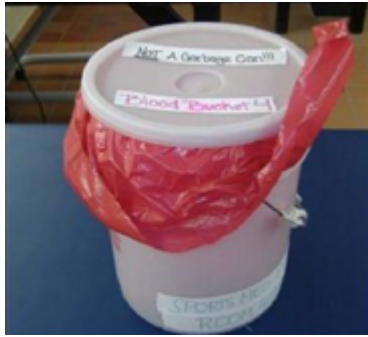
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Universal Precautions



Universal precautions is an approach to infection control to treat all human blood and

certain human body fluids as if they were known to be infectious for HIV, HBV and other blood borne pathogens

Specifics:

- Gloves should always be worn when contact with blood or any other bodily fluids is possible
- Universal precautions should always be practiced when coming in contact with blood or other bodily fluids.
- All contaminated items MUST be disposed of in a biohazard bag or the blood bucket in the treatment room.
- Any contaminated surfaces must be sterilized with disinfectant. This is done by spraying around the entire surface area, letting the disinfectant sit for 30 seconds, and then clearing it with paper towels.
- To prevent the spread of blood borne pathogens, all open wounds should be covered before an athlete participates in activity. A uniform saturated in blood must be cleaned or changed before returning to activity.

Bloodborne Pathogens

Anyone working with a patient population must be aware and trained in order to help control the spread of disease found within bloodborne pathogens (BBP). In the workplace, BBP guidelines are regulated by the Occupational Safety and Health Administration (OSHA) within each state. These guidelines not only protect the caregiver but the patient as well.

Purpose: Understand what a Bloodborne Pathogen (BBP) is and how to avoid becoming infected when delivering medical care.

Supplies:

Gloves (latex &/or nonlatex)

Sterile water/Hydrogen Peroxide (H₂O₂)/Saline (contact solution) 10% Betadine or povidone solution

Antibiotic ointment (Triple antibiotic: Neosporin) Sterile nonstick gauze

Steri-strips, butterfly closure, Band-Aids

What is a bloodborne pathogen?

Infectious microorganisms found within human fluids that can cause disease.

What fluids contain BBP's?

Blood, synovial fluid, cerebrospinal fluid, semen, vaginal secretions, or other fluids where blood is visible. Notice that sweat and saliva ARE NOT listed. Saliva can contain BBP's DURING dental procedures.

What items are used to protect caregivers and patients from exposure:

Latex gloves, face shields, gauze and bandages, protective eyewear, biohazard bags, disinfectants, sharps container.

Keys to limiting exposure

1. Wear protective gloves whenever working with ANY amount of bodily fluid
2. Always clean and cover open wounds
3. Receive the appropriate vaccinations
4. Use disinfectant whenever a surface comes in contact with bodily fluids
5. No eating or drinking in treatment areas
6. Develop cleanliness protocols for athletes/patients prior to receiving treatment
7. Never cap a needle. Dispose of needle in the sharps container
8. Dispose of contaminated materials in the biohazard receptacles
9. Follow the personal protection plan (PPP) of your facility!

Example procedures for simple wound cleaning

1. Put on latex gloves
2. Utilize gauze or another dressing to reduce/stop bleeding with simple pressure
3. Clean the wound by wiping gently AWAY from the wound, never across the wound. You may choose to have the patient wash the wound with soap and water to further cleanse the treatment area prior to bandaging.
4. Treat the area with an antibiotic ointment such as Neosporin
5. Place the appropriate size bandage over the entire wound.
6. Gather all contaminated materials into the palm of one hand and make a fist
7. With the other hand remove the latex of glove of the hand with the materials
8. Place the removed glove into the palm of the remaining glove and remove
9. Dispose of materials in the biohazard container
10. WASH HANDS

The chance of infection during athletic participation is minimal. However, precautions against exposure should ALWAYS be taken regardless of the amount of blood/fluid present. Always wear gloves and always wash your hands.



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Wound Care



All open wounds should be cared for immediately, even those that are

relatively superficial. When performing wound care, it is important to follow universal precautions. All wounds must be cleansed with antiseptic wash or soap and water to minimize the chances of contamination and infection. After cleaning, a sterile dressing containing an antibacterial ointment should be applied to limit bacterial growth and prevent the wound from sticking to the sterile gauze or bandage. The dressing should be changed often to minimize bacterial growth. When properly done, wound care should decrease the inflammatory response, speed healing, and minimize scarring. If a wound appears to be severe, for example, if white adipose tissue is visible or bleeding is not slowing, the patient should be referred to a physician.



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Blisters

A blister is an area of raised skin where fluids have accumulated caused by excess friction. A blister begins with a hot spot noted by a sharp, burning sensation. A superficial blister will be filled with clear fluids and a deeper blister can fill with blood if a vessel is ruptured. To reduce the amount of friction and prevent blisters it is important to keep socks dry and wear the correct shoe size. To prevent a blister from becoming more severe, cover the area with friction-reducing materials such as donuts, moleskin, Aquaheal, or second skin. If a blister is still intact and in an area that will receive a lot of friction, the blister may be popped. After the blister has been popped, treat as an open wound and then place a doughnut pad around the area to prevent further irritation.



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P.R.I.C.E.

P.R.I.C.E. stands for Protect, Rest, Ice, Compression, and Elevation. This is used in the acute stages of an injury.

- Protect the injured extremity with crutches, splints, braces, or immobilizers.
- Rest the injured extremity to allow for proper recovery. The level of rest depends on the severity of the injury. Rest does not mean to completely discontinue movement.
- Ice acts as an analgesic and constricts blood vessels to prevent further swelling from entering the injured area.
- Compression decreases current swelling and prevents any further swelling from entering the joint.
- Elevate the injured extremity to force any current swelling back to the heart and out of the joint.

P.O.L.I.C.E Stand for Protect, Optimal Load, Ice, Compress, Elevate



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Thermotherapy Notes

Heat modalities:

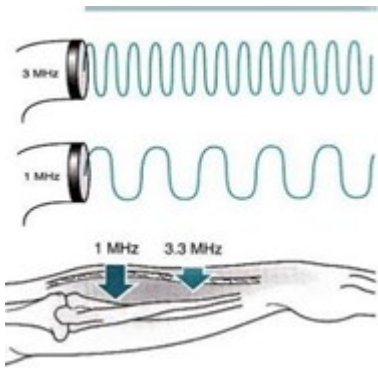
Hot Pack: Hot packs are used to superficially heat an area. There are many reasons for superficially heating an area including bringing blood flow to a muscle so it can be stretched before activity. There are two main types of heat packs: cervical and standard.



Paraffin Bath: The paraffin bath is a heat modality that uses wax to cover extremities that cannot be heated with normal heating packs. After the extremity has been heated in the paraffin bath it is to be placed in a heat pad for 15 minutes to allow the heat to reach deeper into the injured area. Only return the wax to the paraffin bath if the athlete has washed their hands and does not have nail polish on.

Diathermy: Diathermy is a heat modality that uses electromagnetic waves to heat deep tissue to promote healing by increasing blood flow to the affected area. Diathermy is able to heat a larger surface area than ultrasound and does not need to be continually moved throughout the treatment.





Ultrasound: Ultrasound is a heat modality that uses acoustic vibrations to penetrate deep into the muscle and can increase blood flow. The ultrasound can be operated using 3 different frequencies. 1 Megahertz, which is to be used on deep areas, 2 Megahertz which is to be used on moderate areas, and 3 Megahertz which is to be used on more superficial areas.



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Cryotherapy Notes



Ice Cups: Ice cups can be used not only as an analgesic, but also as a massage tool. The deep penetrating wet cold of the ice will stop the pain and using it as a massaging tool can push swelling out of a joint after an acute injury. Be sure to not stop moving the ice cup to prevent ice burns. Use circular motions while massaging back to the heart to prevent swelling from getting deeper into the joint.

Moist Ice Pack (Bob Dog): Created by dampening a towel, placing a thin line of ice within the towel, and wrapping the towel around the ice like a burrito, ensuring no ice can slip out. The moisture on the towel allows the cold from the ice to penetrate much deeper than a regular ice pack, which reduces the time needed before the analgesic effects are felt.

Ice Pack: Ice packs are used on acute injuries to prevent blood flow to the area in order to prevent further swelling from entering the joint. Be sure to suck all of the air out of the bag so it will form to the injured joint.



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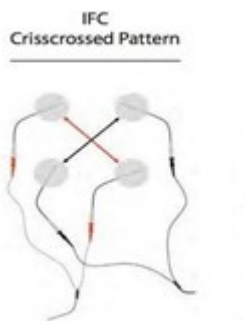
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Neutral Therapy Notes

Light Therapy: Light therapy is used to accelerate mitochondrial production of Adenosine Triphosphate (ATP) which promotes healing. The three common types of light used in therapy are Red light, Infrared light, and Blue light. Red and infrared light can improve circulation, cellular regeneration, or muscular reeducation. Blue light is used primarily for fungicidal and bactericidal purposes. When Blue light is used, it should always be followed by a treatment of Red and Infrared light for optimization of healing.



Electrical Stimulation: "E-Stim" is a modality that uses electrical impulses to block the pain signals from the brain to the injured extremity. It is primarily used as an analgesic. The most common E-Stim to be used in the Sports Medicine clinic is Interferential currents. To set up for IFC the leads for the E-Stim machine must make an "X" around the injured area crisscrossing the red with the black in order to properly benefit the injured athlete. No pads should be placed on bony areas or open wounds.





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Game Ready Chart



Game Ready: Game Ready is a cold modality that sends ice water through a hose to a sleeve specified for a certain joint. Game Ready incorporates ice and compression from P.R.I.C.E in an effort to reduce swelling. Game Ready decreases blood flow to a certain area and should not be used on an athlete before practice or a game. If the athlete is properly positioned, it can incorporate all elements of P.R.I.C.E.

GAME READY™
QUICK START GUIDE
G

YOUR GAME READY SYSTEM

CONTROL UNIT

GETTING STARTED

STEP 1 Push the door release button to open the ice box door.

STEP 2 Fill the ice box completely with ice, and at least 1/2 full with clean water.

STEP 3 Close the ice box door. Make sure you hear it click.

STEP 4 Place the Control Unit in the location where you plan to use it. The Control Unit should only be used in the upright orientation as shown.

STEP 5 Connect the AC Adapter to the Control Unit and the grounded electrical outlet. Note: The Control Unit should be powered up prior to attaching a Wrap.

STEP 6 Connect the larger end of the Connector Hose to the Control Unit. Make sure you hear it click. To disconnect, simply press the button and remove the connector from its port.

STEP 7 Apply the selected Wrap (consult the Use Guide for each Wrap for application instructions).

STEP 8 Connect the smaller end of the Connector Hose to the Wrap. Make sure you hear it click. To disconnect, simply press the button and remove the connector from its port.

STEP 9 Press the Play/Pause button to start the treatment.

STEP 10 Adjust temperature knob (snowflakes, will the knob left, to cold therapy. All knob at full cold minutes).

STEP 11 You can Mode or Program adjust time and allows you to change provide treatment (treatment) for a pressure setting. See page 15 in the details. The System.

Manual Mode: Set the time by: Set the pressure button.

Program Mode: Push the program button. Continue to push through available.

STEP 12 Press the Stop button to end the treatment.



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Bob-Dog

A bob-dog is a form of cryotherapy that adds moisture to help the cold penetrate deeper into the tissue in less time.



1. First get a towel and moisten in the sink.



2. Add a thin layer of ice to the wet towel.

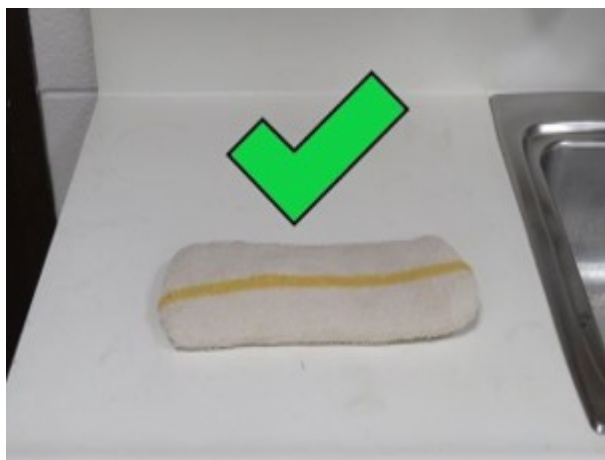


3. Fold the ends in, making sure the ice stays flat.



4. Fold to the middle, then to the edge of the towel.

5. The finished product should be flat and uniform, this allows the bob-dog to conform to the injured joint or segment. Use a velcro strap (if applicable) to attach the bob-dog securely to the injury. If you add too much ice or don't flatten it as you go through the steps, it makes a bulky bob-dog and it won't conform properly to the injury. Too much ice also increases the chances of it spilling out and making a mess everywhere. Once treatment is finished, dump the ice in the sink, and throw the towel in the laundry receptacle.



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Modality Chart

Modality	Physiological Effect	Indications	Contraindications	Application	Time intervals
Diathermy	Electromagnetic waves create vibrations in the molecules of the muscle fibers to increase blood flow to the area and reduce pain	Large soft tissue injuries such as: -muscle strains -tendonitis -muscle knots	Positive fever test Impaired sensation Metal implants Pregnancy Cancer Pacemakers Wet or damp skin If athlete feels a burning or aching sensation stop treatment	Position diathermy head 1" over treatment area Ensure that the skin is dry around the treatment area. Place a towel over the area if desired to reduce intensity of treatment	20 minutes
Hot Packs	Decreases joint stiffness, reduces pain, relieves muscle spasm, reduces edema, reduces swelling, increases blood flow.	Joint stiffness Muscle spasms Chronic edema Chronic Swelling	Positive fever test Impaired sensation Acute injuries	Place hot pack in hydrocollator cover Apply pack to treatment area. To decrease intensity, layer towels between pack and skin.	15 minutes
Paraffin Bath	Increases blood flow and cellular metabolism.	Chronic inflammatory conditions Joint stiffness	Positive fever test Impaired sensation Open wounds Infection	Wash area thoroughly Dip 6-12 times waiting for the wax to dry between dips. Wrap wax covered area in a plastic bag and towel.	15 minutes, or until wax cools
Ultrasound	Sound waves create vibrations in the	Small soft tissue injuries	Acute injuries** Impaired	Apply ultrasound gel generously to affected	5 minutes

	molecules of muscle fibers to increase blood flow to the area and reduce pain	such as: -muscle strains -tendonitis -muscle knots	sensation, Fractures Bony areas. If athlete feels a burning sensation stop treatment **Ultrasound can be used on acute injuries as long as the pulse output is used.	area. Move the ultrasound wand in slow circular motions over the area with a maximum diameter of 2 inches 1 MHz- deep treatment area 2 MHz- moderate depth 3 MHz- superficial treatment area	
Massage	Encourages blood flow while stretching superficial tissues.	Muscular tension, Poor circulation	Acute soft tissue ruptures or tears Bruising	Massages can be applied using Rock Sauce, the buffer, or other various massage tools.	5-8 minutes
Cryokinetics	Reestablishes neuromuscular function earlier and prevents additional swelling in the affected area	Pain Limited range of motion Muscle weakness	Circulation disorders Impaired sensation Open wounds	Submerge injured joint in ice water until numb. Perform exercises while the area is still numb (3 to 5 minutes) within limits of athlete's pain. Re-immerses joint until numb again.	Process can be repeated 3-4 times Submerge limb until numb (5-12 minutes)
Game Ready	Acts as an analgesic, blood vessel constriction to prevent additional swelling in the joint	Acute injuries Pain Inflammation	Circulation disorders Impaired sensation Do not apply before activity	Fill Game Ready machine with an ice water mixture. If possible, cover treatment joint with plastic. Apply the compression sleeve to the joint.	15 minutes
Ice Cups	Pushes fluids out of the injury, acts as an analgesic, constricts blood vessels.	Pain Inflammation Edema in small	Circulation disorders Impaired sensation	Apply ice cup over the affected area with moderate pressure in small overlapping circles	5-7 minutes

		muscular areas.		pushing any fluids towards the heart.	
Ice Packs	Acts as an analgesic, constricts blood vessels to prevent additional swelling from accumulating	Pain Inflammation	Circulation disorders Impaired sensation Avoid excessive exposure	Fill plastic bag with ice Flatten the bag and suck the air out to allow the ice to conform to the body, tie bag closed.	20 minutes of every hour for the first 72 hours
Moist Ice Pack (Bob Dog)	The moisture allows the cold to penetrate deeper and acts as an analgesic	Pain Inflammation	Impaired sensation Circulation disorders Avoid excess exposure	Dampen a towel with water, place a thin line of ice, and wrap it like a burrito. Place additional towel under limb to catch dripping.	15 minutes
Electric Stimulation	Acts as an analgesic by over stimulating the nerves in the area of application	Pain	Impaired sensation Pacemakers Bony areas	Apply electrodes around the center of the pain, connect the leads in an "X" pattern, red leads across from each other and black leads across from each other.	15 minutes
Light Therapy (Red & Infrared)	Uses light to promote healing on a cellular level by increasing the ATP production in the mitochondria.	Acute and chronic injuries to soft tissue, including the dermal layers of the skin.	Albinism Light will not benefit fractures as it cannot penetrate the bone	Apply the light therapy wand or paddles to the affected and surrounding areas. Cover paddles with a towel to prevent exposure to the naked eye.	30 seconds per application for the wand. A preset time for the paddles, about 9 minutes 30 seconds.
Light Therapy (Blue)	Acts as a bactericidal, viricidal, and fungicidal to disinfect open wounds.	Acute lacerations Abrasions Punctures Skin infections.	Medications that cause sensitivity to light	Apply directly over affected area Cover open wounds with plastic wrap. Eye protection MUST be worn in addition to covering the pads with a towel. Follow with red light.	10 minutes every other day.

Ultrasound
Game Ready
Light Therapy
Premod
Thermastim
IFC (Electric Stimulation)



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Heat Modalities

Diathermy
Hot Packs
Paraffin Bath
Ultrasound
Massage



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Diathermy

Physiological Effect

Electromagnetic waves create vibrations in the molecules of the muscle fibers to increase blood flow to the area and reduce pain.

Indications

Large soft tissue injuries such as:

- muscle strains
- tendonitis
- muscle knots

Contraindications

- Positive fever test
- Impaired sensation
- Metal implants
- Pregnancy
- Cancer
- Pacemakers
- Wet or damp skin
- If athlete feels a burning or aching sensation stop treatment

Application

Position diathermy head 1" over treatment area

Ensure that the skin is dry around the treatment area.

Place a towel over the area if desired to reduce intensity of treatment

Time intervals

20 minutes





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Hot Packs

Physiological Effect

Decreases joint stiffness, reduces pain, relieves muscle spasm, reduces edema, reduces swelling, increases blood flow.

Indications

- Joint stiffness
- Muscle spasms
- Chronic edema
- Chronic Swelling

Contraindications

- Positive fever test
- Impaired sensation
- Acute injuries

Application

Place hot pack in hydrocollator cover

Apply pack to treatment area.

To decrease intensity, layer towels between pack and skin.

Time intervals

15 minutes



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Paraffin Bath

Physiological Effect

Increases blood flow and cellular metabolism.

Indications

- Chronic inflammatory conditions
- Joint stiffness

Contraindications

- Positive fever test
- Impaired sensation
- Open wounds Infection

Application

Wash area thoroughly

Dip 6-12 times waiting for the wax to dry between dips.

Wrap wax covered area in a plastic bag and towel.

Time intervals

15 minutes, or until wax cools



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Ultrasound

Physiological Effect

Sound waves create vibrations in the molecules of muscle fibers to increase blood flow to the area and reduce pain.

Indications

Small soft tissue injuries such as:

- muscle strains
- tendonitis
- muscle knots

Contraindications

- Acute injuries**
- Impaired sensation
- Fractures Bony areas.
- If athlete feels a burning sensation stop treatment

**Ultrasound can be used on acute injuries as long as the pulse output is used.

Application

Apply ultrasound gel generously to affected area.

Move the ultrasound wand in slow circular motions over the area with a maximum diameter of 2 inches

1 MHz- deep treatment area 2 MHz- moderate depth

3 MHz- superficial treatment area

Time intervals

5 minutes





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Massage

Physiological Effect

Encourages blood flow while stretching superficial tissues.

Indications

- Muscular tension
- Poor circulation

Contraindications

- Acute soft tissue ruptures or tears
- Bruising

Application

Massages can be applied using Rock Sauce, the buffer, or other various massage tools.

Time intervals

5-8 minutes



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Cold Modalities

Ice Bag
Moist Ice Pack (Bob Dog)
Ice Cups
Game Ready



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Ice Bag

Physiological Effect

Acts as an analgesic, constricts blood vessels to prevent additional swelling from accumulating

Indications

- Pain
- Inflammation

Contraindications

- Circulation disorders
- Impaired sensation
- Avoid excessive exposure

Application

Fill plastic bag with ice

Flatten the bag and suck the air out to allow the ice to conform to the body, tie bag closed.

Time intervals

20 minutes of every hour for the first 72 hours



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Moist Ice Pack (Bob Dog)

Physiological Effect

The moisture allows the cold to penetrate deeper and acts as an analgesic.

Indications

- Pain
- Inflammation

Contraindications

- Impaired sensation
- Circulation disorders
- Avoid excess exposure

Application

Dampen a towel with water, place a thin line of ice, and wrap it like a burrito.

Place additional towel under limb to catch dripping.

Time intervals

15 minutes



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Ice Cups

Physiological Effect

Pushes fluids out of the injury, acts as an analgesic, constricts blood vessels.

Indications

- Pain
- Inflammation
- Edema in small muscular areas.

Contraindications

- Circulation disorders
- Impaired sensation

Application

Apply ice cup over the affected area with moderate pressure in small overlapping circles pushing any fluids towards the heart.

Time intervals

5-7 minutes



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Game Ready

Physiological Effect

Acts as an analgesic, blood vessel constriction to prevent additional swelling in the joint.

Indications

- Acute injuries
- Pain
- Inflammation

Contraindications

- Circulation disorders
- Impaired sensation
- Do not apply before activity

Application

Fill Game Ready machine with an ice water mixture.

If possible, cover treatment joint with plastic.

Apply the compression sleeve to the joint.

Time intervals

15 minutes



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Therapeutic Modalities

Interferential Current
Therma/Cryo Stim Probe
Light Pad
Pre-Mod
Patient Positioning



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Interferential Current

Physiological Effect

Acts as an analgesic by over stimulating the nerves in the area of application.

Indications

- Pain

Contraindications

- Impaired sensation
- Pacemakers
- Bony areas

Application

Apply electrodes around the center of the pain, connect the leads in an “X” pattern, red leads across from each other and black leads across from each other.

Time intervals

15 minutes



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Therma/Cryo Stim Probe



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Light Pad



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Pre-Mod



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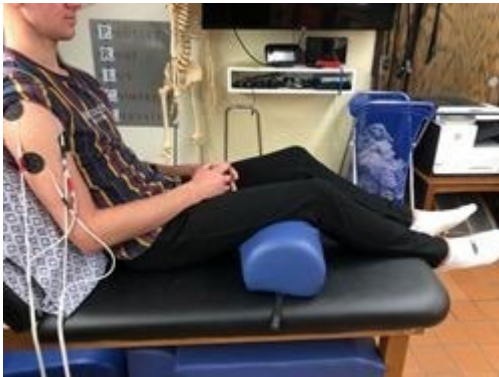
Access it online or download it at https://books.byui.edu/ess_349_lab_manual/pre_mod.

Patient Positioning

The purpose of patient positioning is not just to help the athlete feel comfortable but also putting them in the appropriate position that will best aid healing.

- ALL footwear should be taken off before occupying the tape or treatment room table.
- Use bolsters at any time the spine is not in a neutral position
- When inflammation is present, use wedges to elevate the inflamed joint above the heart. After situating an athlete ask them if they are comfortable. If the athlete is not, adjust the positioning until comfort is achieved but also aiding in healing.

Here are some examples of how-to patient position:





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Preventative Ankle Taping

The purpose of the ankle tape job is to prevent inversion ankle sprains, which is the most common ankle sprain.

1. Apply pre-wrap completely covering the ankle
2. Apply anchors in an "A" to "V" fashion
3. Apply stirrups starting medially and pulling laterally
4. Apply another layer of anchors to secure stirrups
5. Apply heel locks around the ankle, 3 on each side
6. Anchor the bottom of the tape job with one strip placed without tension around the midfoot.





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Phases of Rehabilitation

Phase 1: PRICE- Manage pain and swelling.

- The goal in this phase is to manage the signs and symptoms of any acute injury (inflammation, pain, and restricted movement) using PRICE.

Phase 2: Begin ROM and resume cardiovascular training.

- The goal in this phase is begin range of motion exercises. In the beginning of range of motion exercises, light Thera-bands and non-weight bearing exercises should be used.
- Be attentive for increased pain, swelling, weakness, or spasm (signs of too much motion) during this phase. If any of these symptoms persist, stop and revert to phase 1.

Phase 3: Restore ROM, improve strength and endurance, proprioception, and continue cardiovascular training.

- The goal in this phase is to restore range of motion and should include slightly more difficult yet pain free exercise plan that includes heavier Thera-bands, and weight bearing exercises.
- Proprioception should be included with both weight bearing, and non- weight bearing exercises (Example: Balance exercises).

Phase 4: Restore strength, begin sport specific exercises.

- The goal in this phase is to begin sport specific exercises, that should include full speed non-contact drills to ensure full restoration of strength and range of motion.
- Restoring strength should be done bilaterally to prevent atrophy of the uninjured side.

Phase 5: Return to sport.

- The goal of this phase is to help the athlete return to play by using effective taping, bracing, special pads, etc.

Practical Principles of Rehabilitation for the Treatment Room

As a volunteer or a coordinator in the treatment room, you operate under Jodi's direction. You should do your best to research material that will help the athlete you treat. At this point in your academic and professional career, most of you, if not all, do not have enough training in rehabilitation to know how to specifically help someone at their point of injury. As such, here are some principles to help guide you as you work to help the people in the treatment room.

- We do not push our athletes through pain. If an exercise causes pain at the injured site, then it should be avoided. In your future career, you may know how to properly strengthen athletes even when the exercise causes pain. You don't have the experience or permission to do so now. Pushing through pain, may cause the person to be injured even worse. Avoid it!
- Communicate with your athlete to understand which ranges of motions hurt and then avoid them as they heal.
- Safety is a huge priority. In exercises that require balance, make sure that they have something to reach out and grab if they feel like they are going to fall. This is especially true if you are working on hard surfaces and not on a wrestling mat.
- Since you do not push your athlete through pain, attempt instead to strengthen the rest of the kinetic chain. The cause of injury could be due to muscle imbalances in places beside the joint. Take into account their posture and make plans to help improve it. In essence, train the surrounding joints to help the injured joint.
- See the bigger picture. Many injuries come from poor sport mechanics (ie. Poor jumping technique contributing to meniscus pain, or poor volleyball serves causing rotator cuff injuries). As you rehabilitate your athlete, have them go through some of their sport motions to see if this is their problem.
- Lastly, there are several ways that you can rehabilitate your athlete's injury. Depending on your athlete, you can focus on bilateral strengthening, stretching, proprioception/neuromuscular control, cardiovascular health, core stability, and posture in the kinetic chain. Always seek to use wisdom in how you treat them.

Do not be afraid to draw upon the wealth of knowledge from fellow students, coordinators, and Jodi as you rehabilitate your athlete. These people can be valuable resources to guarantee the success of your athlete's healing. Ultimately, what happens in the treatment room should always be under Jodi's guidance. She has more authority than this manual. (For further information on rehabilitation, review pages 193-198 in Essentials of Athletic Injury Management by William Prentice.)



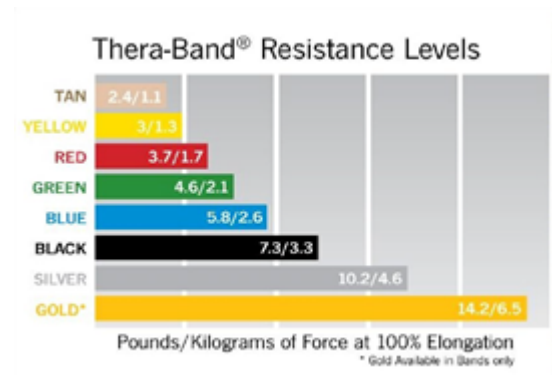
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Rehab Tools

Thera bands: Elastic bands that come in different thicknesses resulting in different resistances. The bands can be used to improve R.O.M. and strength in acute and chronic stages of an injury.



Balance Pad: Helps increase R.O.M. but incorporates weight bearing activity. Due to the nature of the foam it will cause slight instability within the joint, thus causing increased strength and proprioception within the joint.



Balance Beam: Similar to the balance pad, the balance beam works primarily on strengthening the muscles around a joint while doing so on a soft cushion surface so the joint is not entirely weight bearing.



Agility Pod: Primarily used for strengthening and retraining joints for sport specific exercises. The pods can be linked together so the athlete can do various drills with them, or the athlete can use them for balancing or jump training.

Body Blade: A shoulder rehabilitation tool that allows the user to determine how much strain they want to put on the muscles. It allows for slow progression and strengthens the muscles a little at a time allowing for a better recovery.



Foam Rollers: Often used to stretch muscles to increase R.O.M. and relieve muscles from tight knotted areas. Most effective if the muscle is rolled the full length and extra pressure is placed on the origin and insertion.

"BOSU": An acronym for Both Sides Up, because both sides of the rehabilitation tool can be used. Both sides of the Bosu Ball work on stabilization of the joint and strengthening the muscles within it.



DOTS: Considered the most versatile, customizable rehabilitation tools in the entire treatment room; all joints can be rehabilitated using this tool at any phase of rehab.

DOTS can work on R.O.M., strengthening, weight bearing, or non-weight bearing and can be incorporated into any rehab plan.

Yoga Ball: A versatile tool that is often used for back and core strengthening or rehabilitation. Can be used on any joint and is very effective in aiding stretching.



The Baps Board: Often used early in rehabilitation and in conjunction with Cryotherapy. Highly effective at increasing R.O.M within the ankle joint and can be used for both acute and chronic injuries. Due to the varieties of weights and settings, it can be adapted to any phase of rehab.



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Hypervolt User Guide

To use:

1. Switch to on.
2. Adjust speed. Lowest speed at 9 o'clock position and highest at 12 o'clock.
 1. Turn the dial to adjust speed.
3. To change head attachment, turn off the hypervolt, pull current head directly out and insert new head directly into the opening while pushing firmly. (for fork attachment, align tab on the fork with the groove on the opening and push firmly).
4. Use for 60 seconds per region of space being treated, 5-8 minutes total.
5. To charge, switch to off and plug into the charging cord. This is only needed when the LED band turns yellow or red. The LED band will turn green when fully charged. Make sure to unplug after charging is complete. ****Do NOT charge overnight****
6. Use a damp towel/virex to wipe down Hypervolt once a week.

	<u>Physiological effects:</u>	<u>Indications:</u>	<u>Contraindications:</u>
Hypervolt 2 Pro	Delivers targeted pulses of pressure to care for muscles, relieve tension, provide a relaxing massage, accelerate warm-up and recovery, and help maintain flexibility and range of motion.	Muscle tension Poor circulation	Bony areas Pain or extreme discomfort Bruising, contusions, rashes, or irritated/injured skin

contraindicated conditions

Pregnancy, diabetes, pacemakers, recent surgery, epilepsy or migraines, herniated discs, spondylolisthesis (spondylosis or spondylolysis), joint replacements.

*****DO NOT*****

- Use with any lotions or lubrication medium (this will clog and damage the hypervolt).
- Leave on the charger if the indication light band is green.
- Operate the hypervolt continuously for more than an hour.

	<p>Ball Attachment:</p> <p>Larger muscle groups and a general starting attachment.</p>
	<p>Bullet Attachment:</p> <p>Trigger points found in hips, glutes, trapezius muscles, deltoids and other complex muscle groups.</p>
	<p>Fork Attachment:</p> <p>Long muscles such as calves, forearms, biceps and ankles/achilles.</p>
	<p>Cushion Attachment:</p> <p>Small and sensitive areas such as wrists, ankles, knees and around the neck.</p>
	<p>Flat Attachment:</p> <p>Larger surface areas such as quads, hamstrings, back and chest.</p>





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Ankle HOPS Notes

Ankle Compression Wrap: Ankle Compression Wraps are used on athletes after an injury has occurred. They are primarily used to push swelling out of the injured joint allowing for a faster recovery, less pain, and greater R.O.M. This is done by wrapping the ankle starting from the distal end of the metatarsals keeping the wrap tight and loosening the tension as the wrap progress up the leg. This will force the swelling up the leg and back to the heart.

Ankle Compression Horseshoe: Ankle compression horseshoes work together with compression wraps to prevent swelling from entering a joint. A horseshoe should be applied immediately after an acute ankle injury occurs so swelling does not have time to enter the joint.



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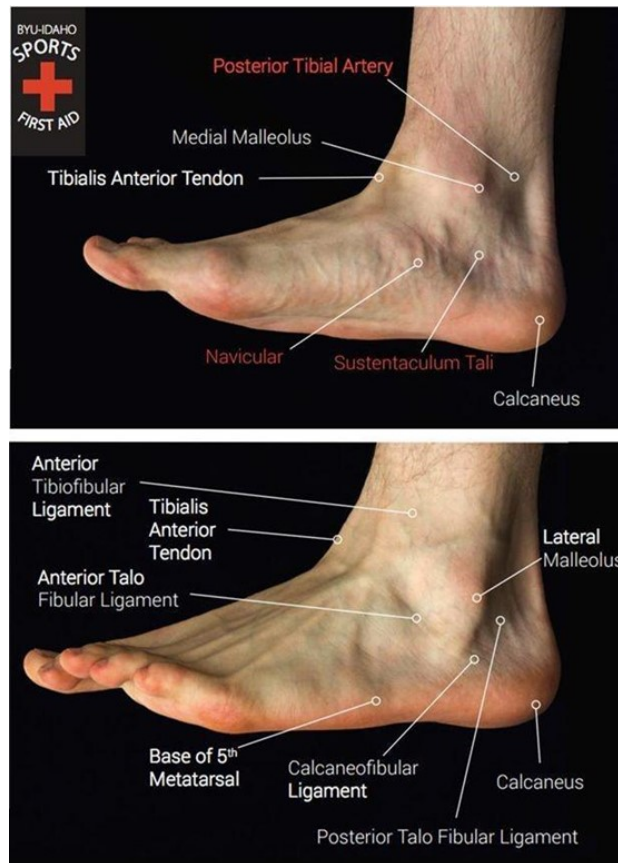
ANKLE HOPS

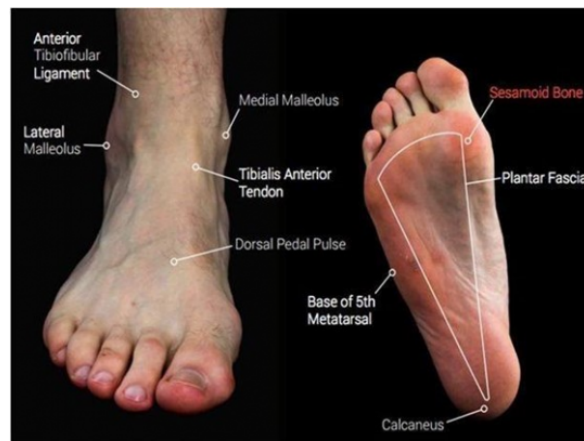


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Palpations





Bony Palpations:
 Medial Malleolus
 Lateral Malleolus
 Calcaneus
 Base of 5th Metatarsal

Soft Tissue Palpations:
 Anterior Tibiofibular Ligament
 Ant./Post. Talo Fibular Ligament
 Achilles Tendon/ Calcaneal Tendon
 Tibialis Anterior Tendon
 Dorsal Pedal Pulse
 Plantar Fascia
 Calcaneofibular Ligament

355 Exceptions:
 Navicular
 Sustentaculum Tali
 Sesamoid Bones
 Posterior Tibial Artery



Calcaneal Tendon – Locate the base of the gastrocnemius and run your fingers down the length of the tendon until you reach a bony perturbation called the calcaneus, or heel bone.

Calcaneus – Locate the most dorsal, distal portion of leg and palpate all the edges of this bone.

Plantar Fascia - Crossing the ball of the foot, draw an imaginary triangle extending down to the heel. Within this triangle explore the superficial layers of tissue along the sole of the foot. Passively flex and extend the toes, noting how this movement affects the tension of the plantar aponeurosis

Dorsal Pedal Pulse - Locate the first and second metatarsals. Place two fingers between the two bones and using gentle pressure, explore for the pulse

Tibialis Anterior Tendon - Locate the shaft of the tibia and slide off it laterally onto the tibialis anterior. With the ankle dorsiflexed, palpate the muscle distally as it becomes a thick, tendinous cord. Follow it to the medial side of the foot as it disappears at the medial cuneiform.

Base of the 5th Metatarsal - Locate the shaft of the fifth metatarsal. Follow the shaft proximally to where the base bulges laterally. Explore the superficial shape of the tuberosity and its surrounding landmarks as it projects from the side of the foot.

Medial Malleoli – Locate the boniest perturbation on the medial side of the ankle. Feel around the entire diameter of this protuberance.

Lateral Malleoli - Locate the boniest perturbation on the lateral side of the ankle. Feel around the entire diameter of this protuberance.

Anterior Tibiofibular Ligament – Locate the anterior aspect of the lateral malleolus and slide your thumb proximal roughly a half inch. Rub your thumb from that insertion diagonally toward the tibia, this is the line of pull for the Anterior

Tibiofibular Ligament.

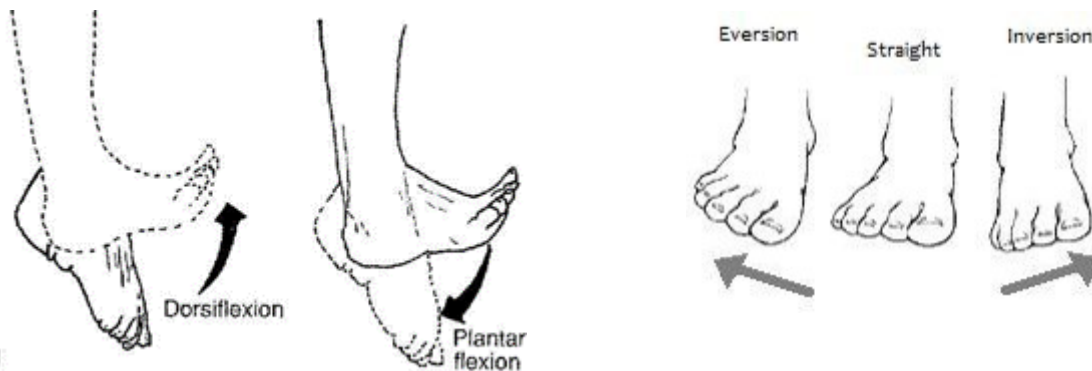
Anterior Talofibular Ligament - This ligament is not very distinguishable, but its position can be isolated by first locating the anterior aspect of the lateral malleolus. Slide your thumb toward the head of the talus, roughly an inch. The ligament passes just medial to the extensor digitorum brevis belly.

Calcaneofibular Ligament - Locate the distal end of the lateral malleolus and the lateral aspect of the calcaneus. This ligament runs at a slight oblique angle and passes posterior to the peroneal tubercle.

Posterior Talofibular Ligament - Set your finger on the posterior side of the lateral malleolus. Continue around the malleolus to the surface of the talus' lateral tubercle. (If you have reached the calcaneal tendon, you have gone too far.) Between these landmarks will be the ligament.

Active & Passive Range of Motion (ROM) & Manual Muscle Testing (MMT):

- Dorsiflexion
- Plantarflexion
- Inversion - Eversion



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Special Tests

Bump Test

Testing for: Fractures of the lower leg or other pathologies of the Tibia and Fibula

Positive test: Pain

Mechanics: Have the patient long sit and position their foot in dorsiflexion. With one hand, ensure that the patient's foot is fully dorsiflexed. With the other, bump the calcaneus softly with the heel of your hand. If no pain is elicited, try once more with more pressure.

Anterior Drawer Test

Testing for: Anterior Talofibular ligament sprain or tear

Positive test: The calcaneus "sliding" forward and pain over the anterior Talofibular ligament.

Mechanics: With patient long sitting, ankle should be in neutral position. Stabilize distal part of leg with one hand and

apply an anterior force to the heel with the other hand. Ensure stabilizing hand is not covering the Anterior Talofibular ligament.

Talar Tilt Test

Testing for: A sprain the Calcaneofibular ligament.

Positive test: Hypermobility in inversion and pain over the calcaneofibular ligament.

Mechanics: Examiner stabilizes the medial aspect of the distal part of leg, just proximal to [medial malleolus](#), with one hand and applies an inversion force slowly to the hind foot with the other hand.



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How to Use a Tape Shark



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Arch Taping

<u>Indications (+) / Contraindications (-)</u>	<u>Expectations</u>
<ul style="list-style-type: none">• Flat arches, plantar fasciitis, shin splints due to fallen or low arches (+)• May be painful for those with high arches (-)	<ul style="list-style-type: none">• Tape job should create an artificial arch. Tape job should not restrict flexion of the toes

Taping tips

1. Pull horizontal tape strips, lateral to medial to create arch support
2. Pull co-flex lateral to medial to create arch support





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Patellar Tendon Taping

<u>Indications(+)/Contraindications (-)</u>	<u>Expectations</u>
<ul style="list-style-type: none">• Patellar Tendonitis (Jumpers Knee) (+)	<ul style="list-style-type: none">• Tape job should create a new insertion for the quadriceps, thus relieving pain on the patellar tendon.• Tape job should be placed on with high pressure directly on the patellar tendon.

Taping tips

1. Palpate to identify inferior border of patella and tibia tuberosity
2. Athlete on block in ready position
3. Unilateral pressure over patella when applying tape





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Wraps

Hip Flexor Wrap

<u>Indications (+)/Contraindications (-)</u>	<u>Expectations</u>
<ul style="list-style-type: none"> • Hip flexor strain (+) • If the athlete is not wearing compression shorts (-) • If the athlete isn't comfortable with the vicinity of the wrap to their pelvis(-) 	<ul style="list-style-type: none"> • Wrap should cover the ASIS bilaterally and pull hip into flexion. Wrap should be tight enough to not fall off.

Taping tips

1. Athlete stand on heel block in ready position
2. Pull elastic wrap medial to lateral

Hip Adductor Wrap

<u>Indications (+)/Contraindications (-)</u>	<u>Expectations</u>
<ul style="list-style-type: none"> • Hip Adductor Strain (+) • If the athlete is not wearing compression shorts(-) • If the athlete isn't comfortable with the vicinity of the wrap to their pelvis(-) 	<ul style="list-style-type: none"> • (• (

- Wrap should cover the ASIS bilaterally and pull hip into adduction and slight internal rotation.
- Wrap should be tight enough to not fall off.

Taping tips

1. Have athlete stand on heel block in ready position
2. Pull elastic wrap lateral to medial

Horseshoe Wrap



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Horseshoe Wrap



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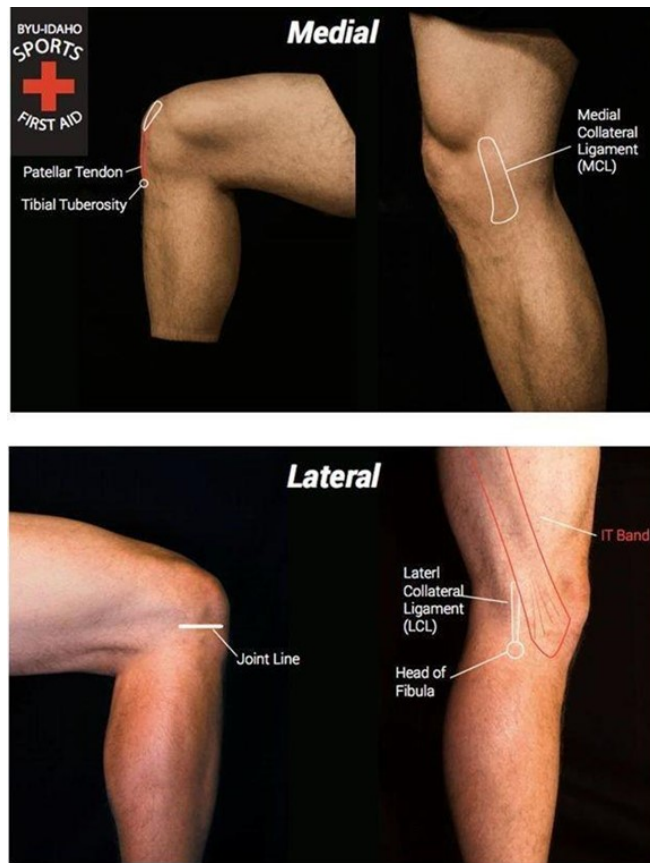
KNEE HOPS

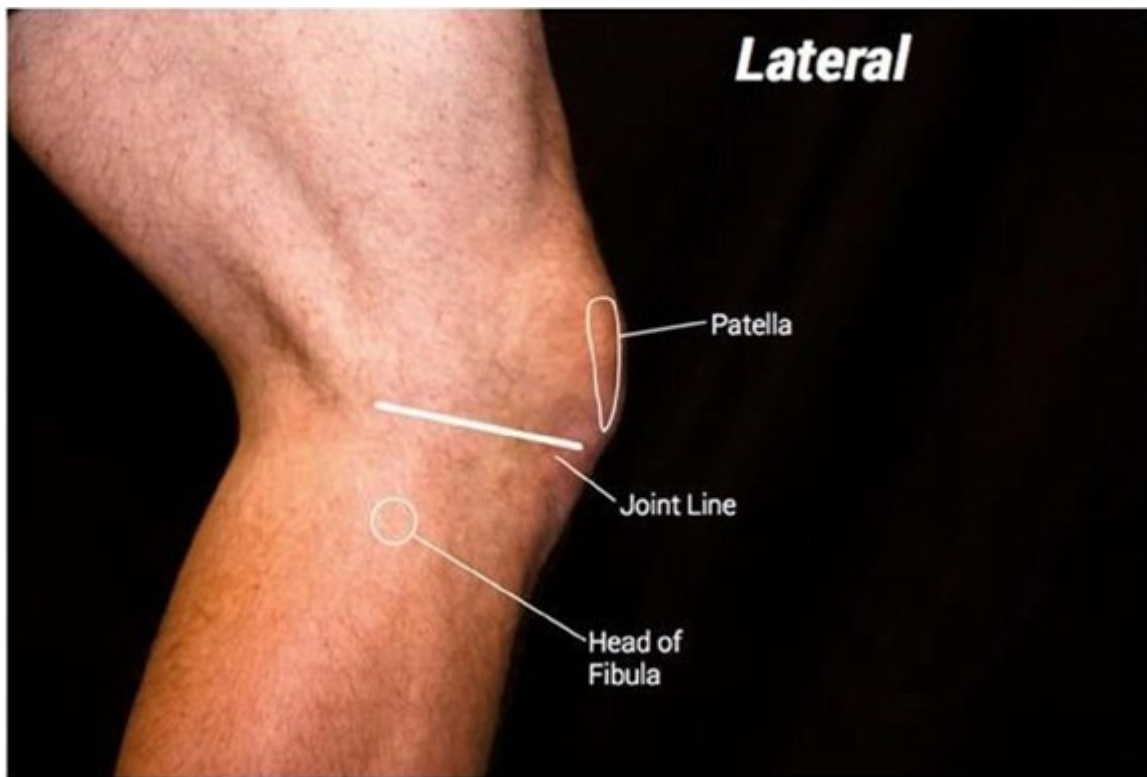


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Palpations





Bony Palpations;

Patella

Tibial Plateau

Joint Line

Tibial Tuberosity

Head of Fibula

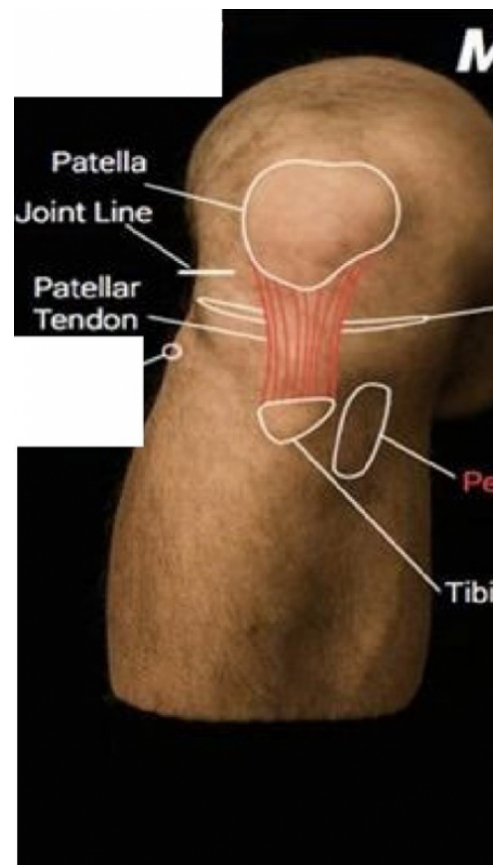
Soft Tissue Palpations

Patellar Tendon

355 Exceptions

IT Band

Pes Anserinus



Patella -The kneecap. Feel around the entire circumference.

Patellar Tendon - Find the patella. Move directly inferiorly and find the tendon. Should be able to “pinch” the tendon.

Tibial Tuberosity - The superficial knob located distal to the patella on the shaft of the tibia. Partner seated with knee flexed, locate the patella. Slide fingers three to four inches inferior from the patella. Using thumb pad, explore the tuberosity.

Joint Line (Medial/Lateral) - Partner seated with knee flexed. Place thumbs on either side of the patella. Slide inferiorly, compressing into the tissue. You will feel a softening in the knee as your thumbs sink into the joint space between femur and tibia.

Tibial Plateau (Medial/Lateral) - Continue inferiorly until you feel a bony rising, this is the plateau edges. Palpate both the lateral and medial side.

Medial Collateral Ligament (MCL) – Best found through the joint line. Dig thumb into the joint line and move medially roughly 1-2”. Joint density will go from a ‘squishy’ feel to tense. When you reach the point of tenseness, move your thumb up and down roughly two inches.

This is the length of the MCL.

Head of Fibula - Partner seated with knee flexed. Locate the tibial tuberosity. Slide your fingers laterally three to four inches toward the outside of the leg. Palpate the head of the fibula and feel the entire diameter.

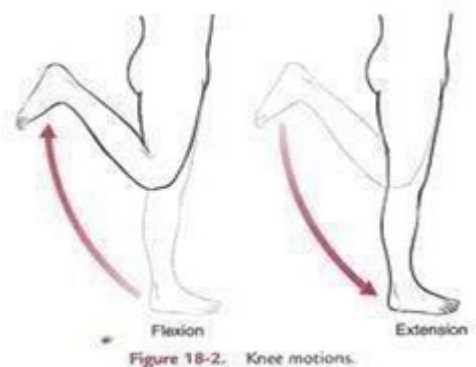
Lateral Collateral Ligament (LCL) - Place the knee in 90 degrees of flexion and externally rotate and abduct the hip (i.e., cross the ankle of the involved leg over the opposite leg) to make the LCL more identifiable. Most easily identified if one finds the head of the fibula first and then goes directly above it.

The length of the LCL will go roughly 2-3” straight above the head of the fibula.

Active & Passive Range of Motion (ROM) & Manual Muscle Testing (MMT):

- Flexion
- Extension

If athlete is sitting on exam table, ensure that the exam table does not interfere with full ROM



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Special Tests

Anterior/Posterior Drawer

Testing for: Integrity of the Anterior Cruciate Ligament (anterior drawer) or integrity of the Posterior Cruciate Ligament (posterior drawer)

Positive test: A positive test will result in anterior or posterior translation of the tibia on the femur.

Mechanics: With the knee flexed and the foot stabilized and in neutral rotation, a firm, but gentle, grip on the proximal tibia is achieved with the thumbs located over the joint line. An anterior force is then applied to the proximal tibia with a gentle anterior motion. The same can be achieved for the posterior drawer test, when a posterior force is applied

Lachman's Test:

Testing for: Integrity of the anterior cruciate ligament without the possibility of muscle guarding from the hamstrings.

Positive test: Increased anterior movement of the tibia.

Mechanics: The test is administered by positioning the knee in approximately 30 degrees of flexion with the athlete lying on their back. One hand of the examiner stabilizes the leg by grasping the distal end of the thigh, and the other hand grasps the proximal aspect of the tibia, attempting to move it anteriorly.

Varus Stress Test and Valgus Stress Test

Testing for: Laxity of the Medial and Lateral Collateral Ligaments. **Positive test:** Hypermobility or pain at the joint

Mechanics: The athlete lies supine with the leg extended. To test the Medial Collateral Ligament, the examiner holds the ankle firmly with one hand while placing the other over the lateral joint line*. The examiner then places a valgus force in an attempt to open the medial side of the knee. Valgus stress is applied with the knee fully extended and at 30 degrees of flexion. To test the Lateral Collateral Ligament, the examiner holds the ankle firmly with one hand while placing the other over the medial joint line. The examiner then places a Varus force in an attempt to open the lateral side of the knee. Varus stress is applied with the knee fully extended and at 30 degrees of flexion. It should be ensured that there is no rotation at the hip while this test is being administered

* Note: If pain is located at joint line hand should be moved superior to the joint line on the distal quadriceps.

Apley's Compression Test

Testing for: Meniscus tear. A medial meniscal tear is noted by external rotation, and a lateral meniscal tear is

noted by internal rotation of the lower leg.

Positive test: Pain

Mechanics: Ensure that knee is located on a hard surface. If exam table is not effectively hard a book may be placed underneath the knee. The athlete then lies prone with the affected leg flexed to 90 degrees. Apply a hard-downward pressure to the leg. The tibia is then slowly, maintaining constant pressure, internally and externally rotated.

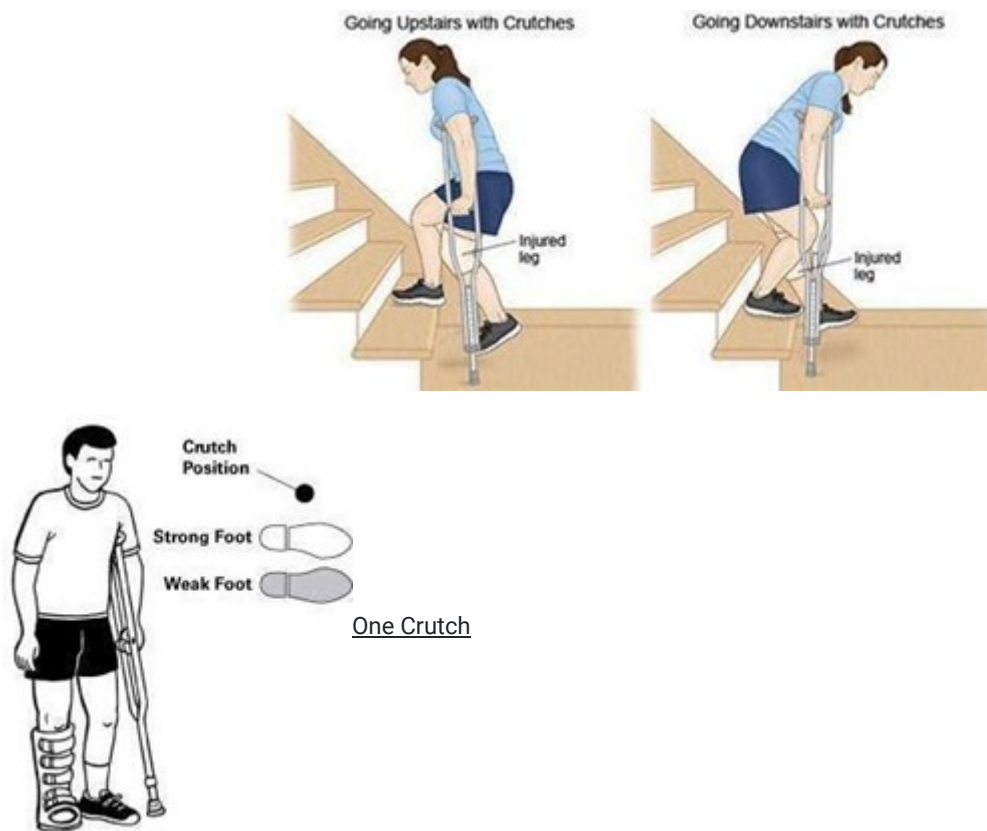


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Crutch Fitting

Crutches are used to rest an injured lower extremity and can be used non-weight bearing or partially weight bearing. There should be about 3 fingers width between the top of the crutches and the armpit. The hand brace should be in a position (usually at the crease of the wrist) that allows 20-30° of flexion at the elbow. When walking with crutches, the crutches should move with the injured leg. When using the stairs, the athlete should put the uninjured extremity first when going up the stairs, and the injured leg goes first when walking down the stairs.



Place the crutch under the arm opposite your weaker leg (see figure above). Move the crutch forward and step with your weaker leg at the same time. Keep the crutch close to your body for support and balance (see figure at left). Support your weight on both your crutch and your weaker leg.





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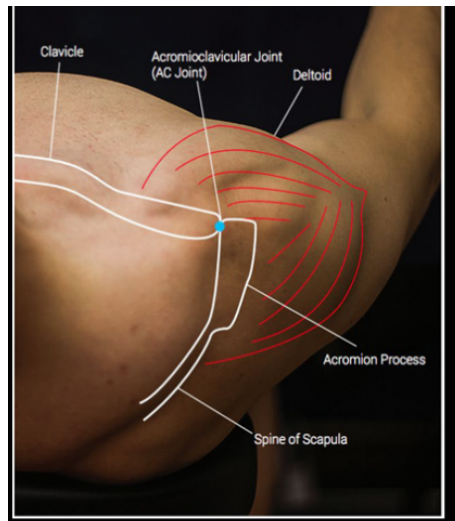
SHOULDER HOPS



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Palpations



Bony Palpations:

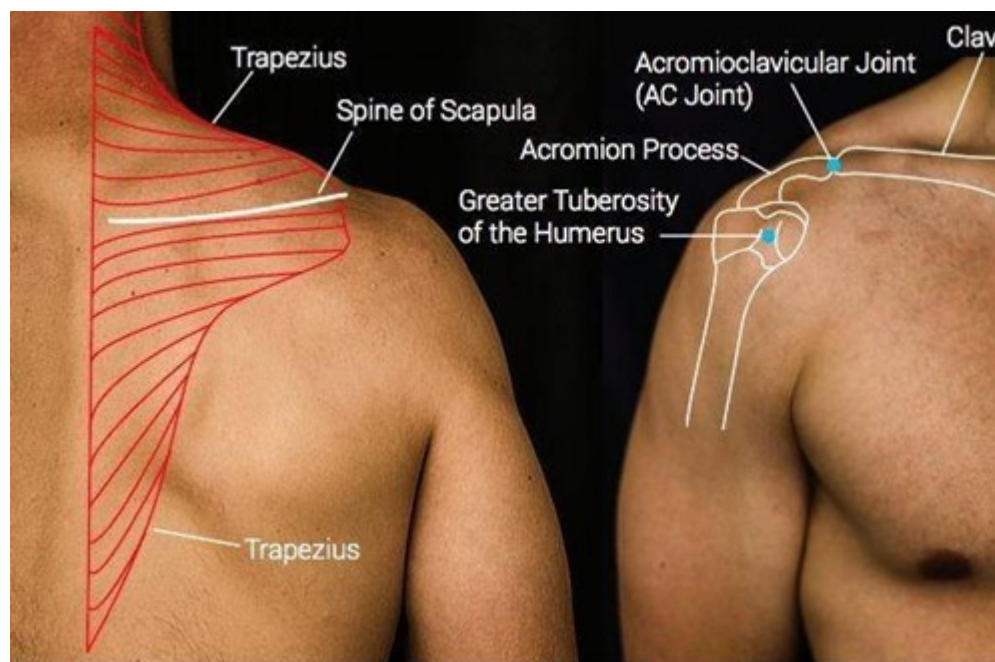
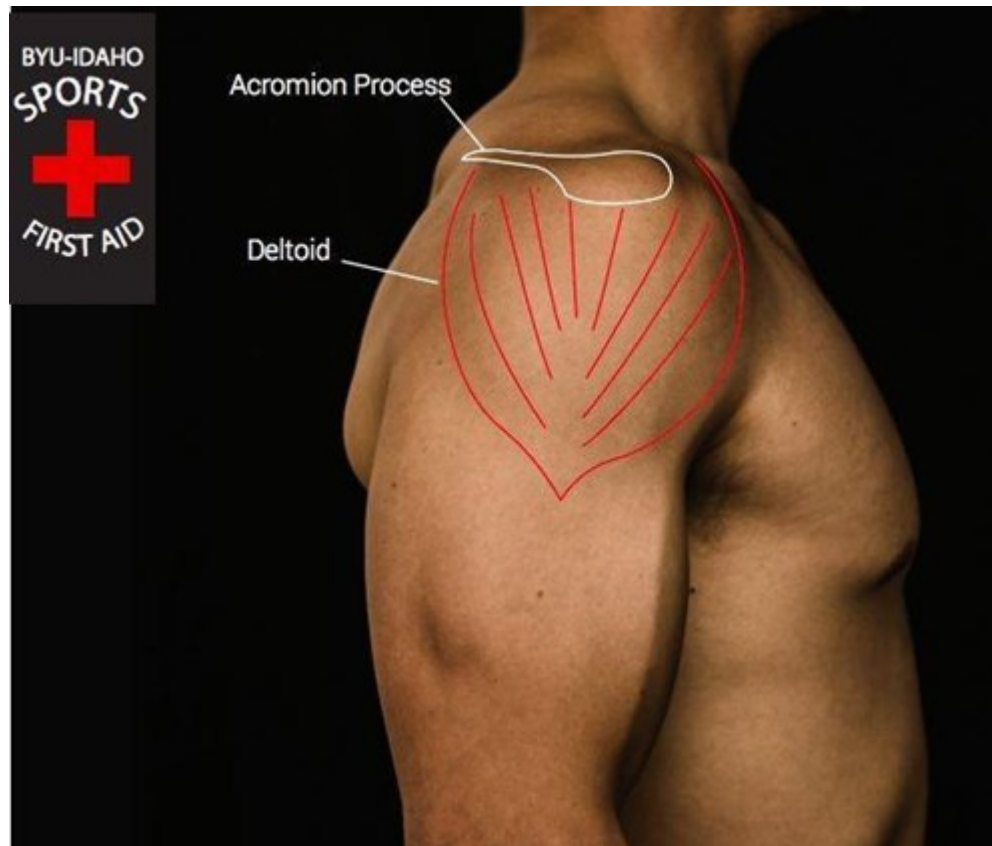
Clavicle
Acromion Process
Acromioclavicular Joint (AC Joint)
Greater Tuberosity Of the Humerus
Spine of Scapula

Soft Tissue Palpations:

Deltoid
Trapezius

Rotator Cuff Muscles: (know by name, not by location)

Supraspinatus
Infraspinatus
Teres Minor
Subscapularis



Clavicle - The superficial clavicle lies horizontally across the upper chest and has a gentle “S” shape. The lateral end is relatively flat and often rises slightly higher than the acromion. The medial end is round and articulates with the sternum. Have partner seated, locate the acromion and walk your fingers medially onto the shaft of the clavicle.

Acromioclavicular Joint (AC Joint) - This is the small articulation between the acromion of the scapula and the acromial end of the clavicle. Seated or supine, locate the acromion. Glide medially toward the clavicle. Your finger will

feel a small “step” as your rise up onto the surface of the clavicle. Backtrack slightly, just lateral to the step will be the AC’s joint slender ditch.

Acromion Process - The lateral aspect of the spine of the scapula and is located at the top of the shoulder. Serves as an attachment site for the trapezius and deltoid muscles. Seated or supine, locate the spine of the scapula. Follow the spine as it rises superiorly and laterally to the top of the shoulder. Explore the flat surface. Explore and sculpt around all sides of the acromion and its attachment to the clavicle.

Greater Tuberosity of the Humerus - Located inferior and lateral to the acromion. It is shaped like a low mound. Is the attachment site for three of the four rotator cuff muscles- supraspinatus, infraspinatus, and teres minor. Seated or supine, locate the acromion. Slide off the acromion inferiorly and laterally approximately one inch. The solid surface located deep to the deltoid fibers will be the greater tubercle. You may feel a small dip between the acromion and the tubercle.

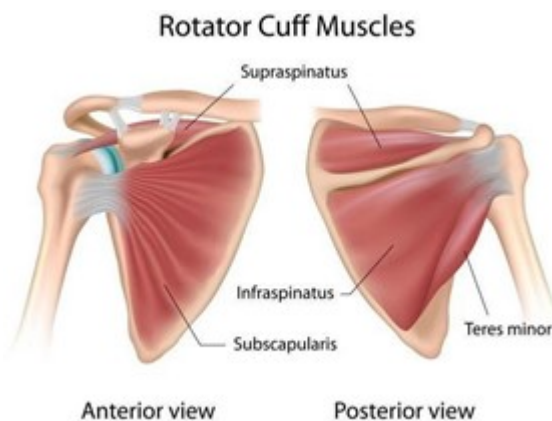
Spine of Scapula - The superficial ridge located just off the top of the shoulder. It runs at the oblique angle to the body, spanning from the acromion to the medial border. It is an attachment site for the posterior deltoid and the middle and lower fibers of the trapezius. Partner prone.

Lay your hand across the upper back and slide your fingertips inferiorly until they roll over the superficial spine. Explore entire width and length.

Deltoid - The triangular-shaped deltoid is located on the cap of the shoulder. The origin of the deltoid curves around the spine of the scapula and clavicle forming a “V” shape. From this broad origin, the fibers converge down the arm to attach at the deltoid tuberosity. Can be divided into three segments: the anterior, middle, and posterior fibers. All three groups abduct the humerus.

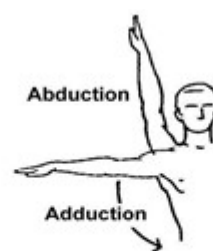
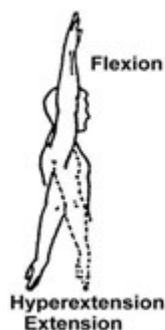
Trapezius - The trapezius lies superficially along the upper back and neck. The fibers blanket the shoulders. The upper and lower fibers elevate and depress the scapula.

Rotator Cuff Muscles: Supraspinatus, Infraspinatus, Teres Minor, and Subscapularis (know by name, not by location)



Active/Passive Range of Motion (ROM) & Manual Muscle Tests (MMT):

- Abduction
- Adduction
- Flexion
- Extension
- Internal Rotation
- External Rotation





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Special Tests

Apprehension Test (Crank Test)

Testing for: History of anterior glenohumeral instability, including laxity of the anterior ligaments, recent subluxations, or past dislocations.

Positive test: Apprehension exhibited on face before endpoint can be achieved.

Mechanics: Patient lies supine close to the edge of the table so that shoulder and arm are allowed full ROM. With the arm abducted 90 degrees, the shoulder is slowly and gently externally rotated as far as the athlete will allow. At no time should this movement be forced.

Hawkins Kennedy Impingement Test

Testing for: Impingement of the supraspinatus muscle

Positive test: Decreased R.O.M often accompanied with pain

Mechanics: Bring the athlete's shoulder to 90° abduction and 45° of horizontal adduction with the elbow flexed to 90°. Support the elbow and gently internally rotate the shoulder.

Acromioclavicular Distraction Test

Testing for: AC trauma or instability

Positive test: Instability, sulcus sign, or pain at the AC joint

Mechanics: Have the patient hold arms down at side. Hold just above the elbow to ensure that test is pinpointing AC problems rather than elbow laxity. Pull inferiorly while placing the other hand on the AC joint.

Empty Can Test

Testing for: Supraspinatus pathologies

Positive test: Muscle weakness accompanied with pain

Mechanics: With the patient standing, instruct the patient to abduct their shoulders to 90 degrees and horizontally adduct arms to 45 degrees with the thumbs pointing downward. The patient will then attempt to lift their arms against the examiner's resistance.



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Additional Tape Jobs

Hip Flexor Muscle Strain Wrap:

1. Have the athlete place their heel of their injured leg on a heel block
2. Begin on the medial side of the upper-thigh and wrap laterally and superiorly around the leg twice.
3. Bring the wrap superiorly to cross the ASIS, pulling tightly upward (into hip flexion).
4. Have the athlete place their hand over their wrap covered ASIS
5. With low tension, bring the wrap around the back and cross the other ASIS. Have the athlete also place a hand over the wrap here to keep it from moving.
6. After coming around the waist, pull the wrap down across the body and wrap around the leg creating a figure 8 motion around the thigh and hip.
7. Secure the wrap with white athletic tape or Co-flex, following the same figure 8 pattern.

Adductor Muscle Strain Wrap:

1. Have the athlete place their heel of their injured leg on a heel block
2. Begin on the lateral aspect of the upper-thigh and wrap medially and superiorly around the leg twice.
3. Bring the wrap superiorly to cross the ASIS, pulling upward.
4. Have the athlete place their hand over their wrap covered ASIS
5. Bring the wrap around the back and cross the other ASIS. Have the athlete also place a hand over the wrap here to keep it from moving.
6. After coming around the waist, pull the wrap tightly down and in as you wrap around the leg (causing hip adduction). This completes the figure 8 motion around the thigh and hip.
7. Secure the wrap with white athletic tape or Co-flex, following the same figure 8 pattern.

Longitudinal Arch (Arch Taping):

Tape Job	Indications+/- Contraindications-	Expectations:	Materials Needed:
Arch Taping	<ul style="list-style-type: none">• flat arches, plantar fasciitis, shin splints due to fallen or low arches+• may be painful for those with high arches-	Tape job should create an artificial arch. Tape job should not restrict flexion of the toes	<ul style="list-style-type: none">• white tape• coflex

1. Before starting, decide if you will use full or ½ strips of white tape. This depends on the size of your athlete.
2. Apply Tuf-skin to the plantar surface of the foot. Apply an anchor strip to the distal pad of the foot (sesamoid bone to small toe).
3. Apply 3-5 tear drops to the plantar surface of the foot. Start at the pinky toe, go medial across the plantar surface, around the heel, and back up medially across the plantar surface to the big toe (sesamoid bone).
4. Apply horizontal strips. Start just above the calcaneus and work your way up. Strips should be placed from lateral to medial. Pull up into the arch in order to create the arch.
5. Finish the tape job with coflex. Apply pulling lateral to medial across the midfoot in order to hold the tape and form the arch more.

Patellar Tendon: The patellar tendon tape job is used to help support the patella tendon by reducing the stress placed on it by physical activity.

1. Have the athlete place their injured leg on a heel block
2. Pre-wrap around the knee covering the midpoint between the patella and the tibial tuberosity
3. Apply one layer of conform with little to no stretch
4. Measure out the Elasticon with full stretch and ensure a 1" gap is present on the back of the knee
5. Apply the Elasticon with full stretch and equilateral pressure directly to the patellar tendon. Ensure that there is still a gap in the back and that the tape is placed on with high pressure.
6. Apply one layer of Conform directly over the Elasticon with little to no stretch. This last layer should cover the gap in the back of the knee.



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






https://books.byui.edu/ess_349_lab_manual/additional_tape_jobs.

Concussion Education

Definition: When a direct or indirect blow to the head or body causes the brain to impact against the skull and sustain trauma.

- An athlete does not necessarily have to receive a direct blow or lose consciousness for a concussion to occur. It is important that a concussion is noticed as soon as possible, and the athlete is removed from play and monitored to prevent further concussions and complications.

Symptom Notes:

MYTH	FACT
 A concussion only occurs as a result of a DIRECT BLOW TO THE HEAD	 A concussion may be caused by a direct blow to the HEAD, FACE, NECK, or ELSEWHERE ON THE BODY if the force of the impact is transmitted to the head
 A concussion occurs only when an athlete EXPERIENCES A loss of consciousness	 Concussions can occur WITH OR WITHOUT loss of consciousness (LOC), and about 90% of concussions DO NOT RESULT IN LOC
 Everyone is at THE SAME RISK for a concussion	 Various factors, including AGE, GENDER, and MEDICAL HISTORY , put an individual at risk for sustaining a concussion
 It is SAFE for a player to return to the same game or practice after suffering concussion-related symptoms	 There are many different signs/symptoms of concussion. Any athlete who displays these symptoms SHOULDN'T be allowed to return to the current game or practice, even if the symptoms clear quickly
 ALL concussions, treatments and recoveries are ALIKE	 NO two concussions are identical. Our research has identified six different clinical trajectories for concussion
 You MUST be placed in a dark room to recover from a concussion	 EVIDENCE-BASED ACTIVE TREATMENTS for concussion exist , including vestibular therapy, vision therapy, exertion therapy and medications
 Having one concussion places you at increased RISK for future concussions	 Proper clinical management is the best form of prevention; recovery from one should NOT put an athlete at risk of another. But there are some inherent conditions (i.e. migraines) that can put you at higher risk
 Concussions DEFINITELY cause long-term brain damage and chronic traumatic encephalopathy (CTE)	 Potential long-term effects from concussion come primarily from POORLY MANAGED INJURIES . Scientific studies linking concussion and long-term effects are still in progress and no definitive conclusions can be made
 Helmets and mouth guards CAN PREVENT concussions	 While helmets have been shown to protect against skull fracture and severe traumatic brain injury, there is very little evidence that a particular brand of helmet REDUCES the incidence of concussion. Mouthguards, too

UPMC

Concussion Signs and Symptoms Checklist



Student's Name: _____ Student's Grade: _____ Date/Time of Injury: _____

Where and How Injury Occurred: *(Be sure to include cause and force of the hit or blow to the head.)* _____

Description of Injury: *(Be sure to include information about any loss of consciousness and for how long, memory loss, or seizures following the injury, or previous concussions, if any. See the section on Danger Signs on the back of this form.)* _____

DIRECTIONS:

Use this checklist to monitor students who come to your office with a head injury. Students should be monitored for a minimum of 30 minutes. Check for signs or symptoms when the student first arrives at your office, fifteen minutes later, and at the end of 30 minutes.

OBSERVED SIGNS	0 MINUTES	15 MINUTES	30 MINUTES	<input type="checkbox"/> MINUTES <i>Just prior to leaving</i>
Appears dazed or stunned				
Is confused about events				
Repeats questions				
Answers questions slowly				
Can't recall events prior to the hit, bump, or fall				
Can't recall events after the hit, bump, or fall				
Loses consciousness (even briefly)				
Shows behavior or personality changes				
Forgets class schedule or assignments				

Students who experience one or more of the signs or symptoms of concussion after a bump, blow, or jolt to the head should be referred to a health care professional with experience in evaluating for concussion. For those instances when a parent is coming to take the student to a health care professional, observe the student for any new or worsening symptoms right before the student leaves. Send a copy of this checklist with the student for the health care professional to review.

PHYSICAL SYMPTOMS

Headache or "pressure" in head				
Nausea or vomiting				
Balance problems or dizziness				
Fatigue or feeling tired				
Blurry or double vision				
Sensitivity to light				
Sensitivity to noise				
Numbness or tingling				
Does not "feel right"				

COGNITIVE SYMPTOMS

Difficulty thinking clearly				
Difficulty concentrating				
Difficulty remembering				
Feeling more slowed down				
Feeling sluggish, hazy, foggy, or groggy				

EMOTIONAL SYMPTOMS

Irritable				
Sad				
More emotional than usual				
Nervous				

To download this checklist in Spanish, please visit: www.cdc.gov/Concussion.
Para obtener una copia electrónica de esta lista de síntomas en español, por favor visite: www.cdc.gov/Concussion.

→ More

Danger Signs:

Be alert for symptoms that worsen over time. The student should be seen in an emergency department right away if s/he has:

- ☐ One pupil (the black part in the middle of the eye) larger than the other
- ☐ Drowsiness or cannot be awakened
- ☐ A headache that gets worse and does not go away
- ☐ Weakness, numbness, or decreased coordination
- ☐ Repeated vomiting or nausea
- ☐ Slurred speech
- ☐ Convulsions or seizures
- ☐ Difficulty recognizing people or places
- ☐ Increasing confusion, restlessness, or agitation
- ☐ Unusual behavior
- ☐ Loss of consciousness (even a brief loss of consciousness should be taken seriously)

Additional Information About This Checklist:

This checklist is also useful if a student appears to have sustained a head injury outside of school or on a previous school day. In such cases, be sure to ask the student about possible sleep symptoms. Drowsiness, sleeping more or less than usual, or difficulty falling asleep may indicate a concussion.

To maintain confidentiality and ensure privacy, this checklist is intended only for use by appropriate school professionals, health care professionals, and the student's parent(s) or guardian(s).

For a free tear-off pad with additional copies of this form, or for more information on concussion, visit: www.cdc.gov/Concussion.

Resolution of Injury:

- ☐ Student returned to class
- ☐ Student sent home
- ☐ Student referred to health care professional with experience in evaluating for concussion

SIGNATURE OF SCHOOL PROFESSIONAL COMPLETING THIS FORM: _____

TITLE: _____

COMMENTS:

* For more information on concussion and to order additional materials for school professionals **FREE-OF-CHARGE**, visit: www.cdc.gov/Concussion.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION



Recovery

- After a concussion is received, the athlete should be asymptomatic before returning to full play
- If symptoms return, they must digress to the former stage until asymptomatic (*In our program under Jodi's direction, if symptoms return, the athlete goes back to stage one until asymptomatic.)
- It is generally advised that the athlete spend a week in each phase

Things to avoid:


Concussions Return to Play

Barrow
Concussion Network

Gradual Return to Sport

When an athlete is returning to sport they should follow a stepwise progression managed by a healthcare provider with increasing amounts of exercise. **Make sure there is at least 24 hours between each step.**

Step 1 Symptom Limited Activity May do daily activities that do not worsen symptoms. Goal: Gradual reintroduction of work/school activities.	Step 2 Light Aerobic Exercise May do walking/stationary bike at slow to medium pace. No resistance training. Goal: Increased heart rate.	Step 3 Sport Specific Exercise Running or skating drills. No head impact activities. Goal: Add movement.
Step 4 Non-Contact Training Drills Harder training drills, i.e., passing drills. May start progressive resistance training (weights). Goal: Exercise, coordination, and increased thinking.	Step 5 Full Contact Practice Following medical clearance, participate in normal training activities. Goal: Restore confidence and assess functional skills by coaching staff.	



Return to Play/Sport Normal Game Play

Written Clearance should be provided by a healthcare provider before the athlete begins the return to play protocol as directed by state laws and regulations.

If symptoms get worse during a stage, the athlete should go back to the previous stage until symptom free.

Barrow Concussion and Brain Injury Center 602-406-HEAD (4323)
<https://concussion.barrowneuro.org/> | www.barrowneuro.org
Contact: 602-406-4762 | concussiondiscussion@barrowneuro.org

Content source: www.cdc.gov/concussions, McCrory P, Meunier W, Drivak J, et al. Consensus statement on concussion in sport - International conference on concussion in sport held in Berlin, October 2016. Br J Sports Med Published First: 26/4/2017. Doi:10.1136/bjsports-2017-097699

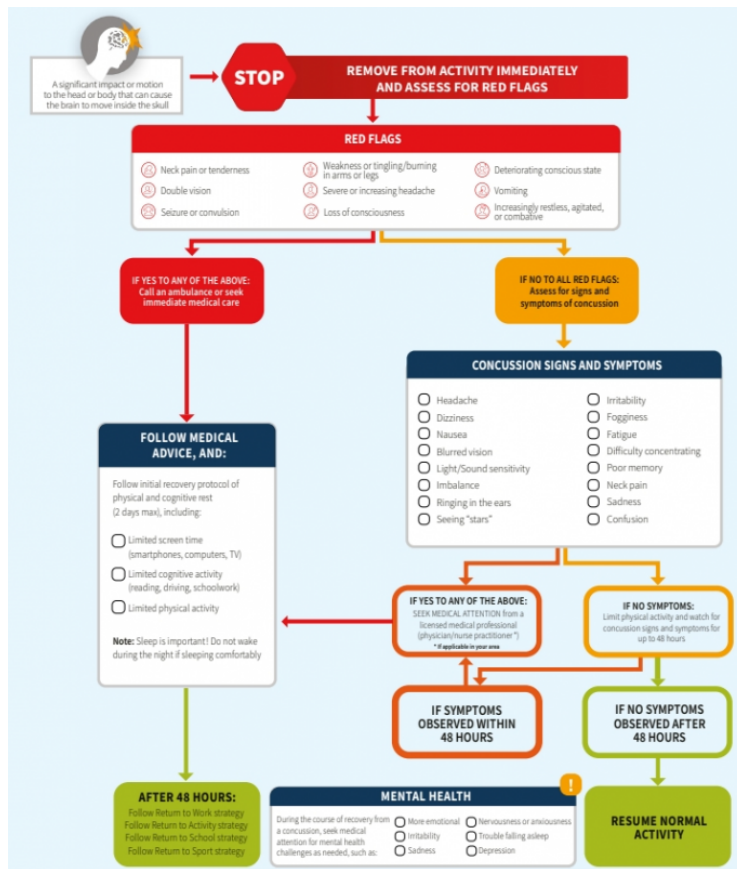
BARROW
Neurological Institute

Second impact syndrome:

- A concussion that occurs before the first concussion is completely healed
- Second impact syndrome can cause: Swelling of the brain, brain damage, coma, respiratory failure, and death.

The SCAT 5 is a standardized tool to evaluate athletes with concussions. This test can be used for on or off the field evaluations. When doing on-field testing, the athlete should sit out for about 10 minutes before being tested.

CATT Concussion Pathway



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Wiihab

David Guk, et al. / Sports Med 2017;101:1136-1138 | doi:10.1186/s13055-017-0975-08 CRT5
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CONCUSSION RECOGNITION TOOL 5®

To help identify concussion in children, adolescents and adults

RECOGNISE & REMOVE

Head impacts can be associated with serious and potentially fatal brain injuries. The Concussion Recognition Tool 5 (CRT5) is to be used for the identification of suspected concussion. It is not designed to diagnose concussion.

STEP 1: RED FLAGS – CALL AN AMBULANCE

If there is concern after an injury including whether ANY of the following signs are observed or complaints are reported then the player should be safely and immediately removed from play/game/activity. If no licensed healthcare professional is available, call an ambulance for urgent medical assessment:

- Neck pain or tenderness
- Double vision
- Weakness or tingling/numbing in arms or legs
- Severe or increasing headache
- Seizure or convulsion
- Loss of consciousness
- Deteriorating conscious state
- Vomiting
- Increasingly restless, agitated or combative

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Assessment for a spinal cord injury is critical.
- Do not attempt to move the player (other than required for airway support) unless trained to do so.
- Do not remove a helmet or any other equipment unless trained to do so safely.

If there are no Red Flags, identification of possible concussion should proceed to the following steps:

STEP 2: OBSERVABLE SIGNS

Visual clues that suggest possible concussion include:

- Lying motionless on the playing surface
- Slow to get up after a direct or indirect hit to the head
- Disorientation or confusion, or an inability to respond appropriately to questions
- Blank or vacant look
- Balance, gait difficulties, motor incoordination, stumbling, slow laboured movements
- Facial injury after head trauma

STEP 3: SYMPTOMS

- Headache
- "Pressure in head"
- Balance problems
- Nausea or vomiting
- Drowsiness
- Dizziness
- Blurred vision
- Sensitivity to light
- Sensitivity to noise
- Fatigue or low energy
- "Don't feel right"
- More emotional
- More irritable
- Sadness
- Nervous or anxious
- Neck Pain
- Difficulty concentrating
- Difficulty remembering
- Feeling slowed down
- Feeling like "in a fog"

STEP 4: MEMORY ASSESSMENT

(IN ATHLETES OLDER THAN 12 YEARS)

Failure to answer any of these questions (modified appropriately for each sport) correctly may suggest a concussion:

- "What venue are we at today?"
- "Which half is it now?"
- "Who scored last in this game?"
- "What team did you play last week/game?"
- "Did your team win the last game?"

Athletes with suspected concussion should:

- Not be left alone initially (at least for the first 1-2 hours).
- Not drink alcohol.
- Not use recreational/ prescription drugs.
- Not be sent home by themselves. They need to be with a responsible adult.
- Not drive a motor vehicle until cleared to do so by a healthcare professional.

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ANY ATHLETE WITH A SUSPECTED CONCUSSION SHOULD BE IMMEDIATELY REMOVED FROM PRACTICE OR PLAY AND SHOULD NOT RETURN TO ACTIVITY UNTIL ASSESSED MEDICALLY, EVEN IF THE SYMPTOMS RESOLVE

Concussion rehab helps with cognitive response proprioception test. We clear week by week; to continue Wiihab progression the athlete's scores must be brought to Jodi. Jodi will then clear the athlete to increase difficulty level.

However, to start Wiihab the athlete must be cleared through Jodi before treatment begins.

If at any time the athlete experiences any **dizziness, confusion, irritability, and nausea** Wiihab must be discontinued.

After the athlete has completed Wiihab for the day, you must ask the athlete if they are experiencing any concussion symptoms such as dizziness, confusion, irritability, and nausea.

This is a 5-week program.

*Contraindications to using the Wiihab are sensitivity to light and sound.

Progression and Wiihab scores must be documented on the Wiihab HOPS sheet presented



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Kinesio Tape

Kinesio tape specifics:

- Kinesio tape is water resistant. The athlete may shower, bathe, and swim with Kinesio Tape on the skin. Let the tape air dry or pat dry with a towel.
- Kinesio tape can last anywhere from 5 to 7 days.
- Rock sauce is the only version of lotion that can be applied to the KT tape
- Athletes in the treatment room may be KT taped only once a week
- Treatment with KT tape should always be followed up with education for the athlete. The KT tape is ineffective if it falls off soon after due to athlete's lack of education.

Kinesio tape application:

1. Cleanse area (shave if necessary)
2. Prep skin with alcohol, ensure that athlete is shaven
3. Let area dry or pat dry with gauze
4. Round edges of KT tape
5. Rip anchors on both ends of the tape
6. Consider amount of stretch
7. Apply medial stretched portion to area, ensure there are no wrinkles
8. Adhere anchors with no stretch on either side
9. Apply heat either with hot pack, rock sauce, or friction

KT tape stretch rule of thumb:

0% - Anchors

15-25% - Bruising and edema

25-75% - Support

Shin Splints Kinesio:

Kinesio Tape is used to relieve pressure and strains on the tissue. Shin splints can be on the medial or lateral aspect of the tibia. Apply the tape vertically over the painful area with stretch. A second piece of tape can be applied horizontally with no stretch over a very painful area.





Patella Tendon Kinesio:

With the athlete's knee flexed, apply the center of the KT Tape just below the patella with stretch and slightly curve the tape around the patella. Apply the anchors around the patella with no stretch.



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3" Powerflex Ankle

This tape job is good for chronic injuries because it offers more support than white tape and will not expand during activity. It can also be used on acute injuries IF further swelling is not possible.

Power Tape is made of petroleum instead of cotton. This prevents its breakdown. It is waterproof, good for water polo players or swimmers. It is more stable with less range of motion.

The tape job is very similar to the preventative white tape job, with a few differences:



1. Instead of pre-wrap, Powerflex will be used instead
2. Wrap the tape job shorter, around 2-3 inches below the gastrocnemius
3. All stretch should be taken out of the Powerflex before applying
4. Less tension should be placed on the tape job, as the tape doesn't 'give' as much



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HOPS Rubrics

Ankle Grading Rubric
Knee Grading Rubric
Shoulder Grading Rubric



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Ankle Grading Rubric

Total points____/48

History - These include, but are not limited to: Total ____/8 (1 pt each) 1 1 1 1 1 1 1 1 (quick mark offs)

____ MOI/How did it happen?	____ When did it happen?	____ What happened?
____ Direction of forces	____ Sport/position	____ Any sounds
____ Location of pain	____ Type of pain	____ Rate pain level
____ Radiating pain	____ Medications	____ Overuse/acute
____ Movement ↑ or ↓ pain	____ Tingling/numbing	____ Previous injury
____ Previous treatment	____ Length of symptoms	____ Changes in training
____ Sounds and sensations	____ Age of shoes	____ Type of track
____ Other intrinsic/extrinsic factors		

Inspection/Observation - These include, but are not limited to: Total ____/ 8 (1 pt each) 1 1 1 1 1 1 1 1 (quick)

____ Deformities	____ Symmetry of gait	____ Symmetry/alignment
____ Scars/lacerations	____ Skin color	____ Swelling
____ Shoe/sock removal	____ Shoe wear	____ Pain/guarding
____ Blisters	____ Callus patterns	____ Pes cavus
____ Pes planus	____ Atrophy/hypertrophy	____ Plantar warts
____ Flexibility of foot	____ WB vs. NWB	____ Hammer/claw toe
____ Hallux valgus	____ Hallux varus	____ Hallux rigidus
____ Bunions	____ Corns	____ Morton toe
____ Ingrown toenail	____ Hematoma	____ Shoe creases
____ Shoe pattern (e.g., pronation vs. supination)	____ Valgus/Varus orientation of forefoot/rearfoot	

Palpations *Total____/12 (Palpations)*****

Bony Palpation - Reasons for bony palpation: AT palpates for: Total 2 points (.5 each) _____

____ Point tenderness ____ Deformity ____ Crepitus ____ Symmetry

Bony Palpations:

____ Medial malleolus ____ Lateral malleolus
____ Calcaneus ____ Base of the 5th Metatarsal

Soft Tissue Palpation - Reasons for soft tissue palpation: AT palpates for: 2 points (.5 each) _____

____ Point tenderness ____ Symmetry ____ Spasm/tone ____ Swelling/warmth

Soft Tissue Palpations:

____ Tibialis Anterior Tendon ____ Dorsal pedal artery/pulse ____ Plantar fascia
____ Anterior TibioFibular ____ Anterior TaloFibular ____ CalcaneoFibular
____ Posterior TaloFibular ____ Achilles/Calcaneal Tendon

Range of Motion *Total____/3 (ROM)*****

____ Active ROM (DF, PF, IV, EV)
____ Passive ROM (DF, PF, IV, EV) **Bi-Lateral_____1 pt**
____ Manual muscle (DF, PF, IV, EV)

Special tests *Total____/12 (Special tests) (1 each)**

Name:	____ Bump Test	____ Anterior Drawer Test	____ Talar Tilt Test
Mechanics:	____	____	____
Testing For:	____ Fractures	____ ATFL Sprain	____ CFL Sprain
Positive Test:	____ Pain	____ Anterior Translation	____ Hypermobility/Pain





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Knee Grading Rubric

Total ____/58

History *Total____/8 (1 pt each)** 1 1 1 1 1 1 1 1 (quick mark offs)

____ MOI/How did it happen?	____ When did it happen?	____ What happened?
____ Direction of forces	____ Sport/position	____ Any sounds
____ Location of pain	____ Type of pain	____ Rate pain level
____ Radiating pain	____ Referred pain	____ Overuse/acute
____ Movement ↑ or ↓ pain	____ Previous injury	____ Previous treatment
____ Length of symptoms	____ Sounds and sensations	____ Tingling/numbing
____ Changes in training	____ Age of shoes	____ Type of track
____ Other intrinsic/extrinsic factors	____ Medications	

Observation *Total____/8 (Observation) (1 pt each)** 1 1 1 1 1 1 1 1 (quick mark offs)

____ Deformities	____ Symmetry of gait	____ Symmetry/alignment
____ Scars/lacerations	____ Skin color	____ Swelling
____ Shoe/sock removal	____ Shoe wear	____ Pain/guarding
____ Blisters	____ Callus patterns	____ VMO atrophy
____ VMO hypertrophy	____ Flexibility of foot/LL	____ Foot deformities

Posture

____ Pes cavus	____ Pes planus	____ Achilles t. angle
____ WB vs. NWB posture	____ Camel sign	____ Genu recurvatum
____ Genu valgus	____ Genu varum	____ Shoe creases
____ Shoe pattern (e.g., pronation vs. supination)	____ Valgus/Varus orientation of forefoot/rearfoot	

Palpations *Total___/8 (Palpations) (1 pt each)**

Bony Palpation - Reasons for bony palpation: AT palpates for: Total 2 points (.5 each) _____

___ Point tenderness ___ Deformity ___ Crepitus ___ Symmetry

Bony Palpations:

___ Patella ___ Fibula Head ___ Joint line
___ Tibial Tuberosity ___ Tibial Plateau

Soft tissue Palpation - Reasons for bony palpation: AT palpates for Total 2 points (.5 each) _____

___ Point tenderness ___ Symmetry ___ Spasm/tone ___ Swelling/ warmth

Soft Tissue Palpations

___ Patellar Tendon ___ Medial Collateral Ligament
___ Lateral Collateral Ligament

Range of Motion *Total___/3 (ROM)****

___ Active ROM (F, E)
___ Passive ROM (F, E) **Bi Lateral _____ 1 pt**
___ Manual muscle (F, E)

Special tests *Total___/26 (Special Tests) (1 pt each)**

Name:	___ Anterior Drawer	___ Posterior Drawer	___ Lachman's
Mechanics:	___	___	___
Testing for:	___ ACL tear/sprain	___ PCL tear/sprain	___ ACL tear/sprain
Positive test:	___ Anterior Translation	___ Posterior Translation	___ Anterior Trans.
Name:	___ Valgus	___ Varus	___ Apley's Com.
Mechanics:	___	___	___
Testing for:	___ MCL tear/sprain	___ LCL tear/sprain	___ Meniscus tear
Positive test:	___ Hypermobility/Pain	___ Hypermobility/Pain	___ Pain
	___ 0 & 30	___ 0 & 30	



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Shoulder Grading Rubric

Total ____/51

History *Total____/8 (1 pt each)** 1 1 1 1 1 1 1 1 (quick mark offs)

The student should be able to identify at least 10 good history questions. These include, but are not limited to:

___ What happened	___ How did it happen	___ Sounds/sensations
___ Direction of forces applied	___ Location of pain	___ Type of pain
___ Rate pain level	___ Radiating pain	___ Referred pain
___ Movement ↑ or ↓ pain	___ Pain constant/intermittent	___ Previous injury
___ Length of symptoms	___ Previous Rx	___ Sleeping problems
___ Onset (Acute or Chronic)	___ Medication(s)	___ Night pain
___ Changes in daily routine	___ Is this your dominant arm	___ Decreased velocity
___ Altered sensations (e.g., Vertigo, tinnitus, paresthesia, snapping)	___ Previous history of shoulder, elbow, wrist, or hand problems/pain	___ When is the pain the worst: morning, noon, night, before, during, after practice

Observation *Total____/8 (1 pt each)** 1 1 1 1 1 1 1 1 (quick mark offs)

The student should be able to identify at least 10 good observation points. These include, but are not limited to:

___ Bilateral comparison	___ Deformity	___ Swelling
___ Symmetry of gait	___ Head and neck position	___ Skin color
___ Scars/lacerations	___ Atrophy/hypertrophy	___ Clothing removal
___ Apley's scratch test	___ Sulcus sign	___ Raised AC joint
___ Winging scapula	___ Step deformity	___ Facial expressions
___ Level of scapula, shoulder, clavicle	___ Posture (e.g., Kyphosis, lordosis, scoliosis, FHP, swayback)	

Palpations *Total____/11 (Palpations)**

Bony Palpation - Reasons for bony palpation: AT palpates for: Total 2 points____ (.5 each)

___ Point tenderness ___ Deformity ___ Crepitus ___ Symmetry **Reasons for boney tissue palpations**

Bony Palpations

___ Clavicle ___ AC Joint ___ Acromion Process

___ Spine of Scapula ___ Greater Tuberosity of Humerus

Soft Tissue Palpation - Reasons for soft tissue palpation: AT palpates for: Total 2 points(.5 each)___

___Point tenderness ___Symmetry ___ Spasm/tone ___Swelling/warmth **Reason for soft tissue palpations**

Soft Palpations

Rotator Cuff

___ Supraspinatus ___ Infraspinatus ___ Teres Minor ___ Subscapularis ___ Deltoids ___ Trapezius

Range of Motion ***Total___/3 (ROM)*** (1 point each)

___ Active ROM (F, E, AB, AD, IN, EX)

___ Passive ROM (F, E, AB, AD, IN, EX)

Bi-lateral ___ (1 point)

___ Manual muscle (F, E, AB, AD, IN, EX)

Special tests ***Total___/16 (Special Tests) (1 each)

Name: ___ **Hawkins-Kennedy** ___ **Crank/Apprehension** ___ **Empty Can** ___ **AC Distraction**

Mechanics: ___ ___ ___ ___

Testing for: ___ ___ Anterior ligament ___Supraspinatus ___ AC joint
Impingement laxity pathology

Positive test: ___ Pain ___ Apprehension/Pain ___Weakness/Pain ___Hypermobility/Pain





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