Commonly Encountered Injuries

BUD/s

A quick reference of the injuries commonly diagnosed at BUD/s Medical during a student's training throughout Basic Orientation, the three phases of BUD/s, and SEAL Qualification Training. Injuries are grouped into joint categories and alphabetically within each joint group. The return-to-training prognosis is an estimate including rehabilitation and time required to improve upon the student's lack of conditioning during the rehabilitation process of some of these injuries.

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BUD/s Injury Protocol

Shoulder

Bicipital Tendinitis

Description: Pain in the front of the shoulder caused by overuse of the biceps muscles.

Return to Training Prognosis: 1-2 days. No permanent damage.

Light Duty: Upper Extremity Exercises Limited.

Rehabilitation Return to Training Protocol:

-Rest, Ice, Education, injection if indicated

-PRE for RTC

-HEP for RTC strength as well as Injury Prevention Program

Brachial Plexopathy

Description: A chronic or acute injury caused by damage to the nerves controlling the arm. This is a serious injury, which can lead to permanent symptoms, including severe weakness and numbness in the affected arm. Can also present as a "stinger" which is very temporary with symptoms lasting from minutes to days.

Return to Training Prognosis: Variable, 6-14 weeks depending on severity

Light Duty: Upper Extremity Exercises Limited, No swimming, No O'Course

Rehabilitation Return to Training Protocol:

-EMG if severe, MRI if pain symptoms persist after nerve symptoms cease

-Rest, NSAIDs to control edema, E-Stim to promote movement and prevent nerve degeneration

-Education in nerve gliding and stretching of cervical and shoulder girdle muscles

-Stretching without production of symptoms. Avoid overhead movements causing symptoms

-Once full AROM is achieved, mild strengthening of affected myotomes, PRE

-Injury Prevention Program, HEP

Labral Tear Not Requiring Surgery:

Description: A tear in the soft tissue "inside" the shoulder joint. This soft tissue gives the shoulder stability.

Return to Training Prognosis: 4-6 Weeks after Diagnosis

Light Duty: Upper Extremity Exercises Limited, Swimming Limited, No Overhead Activities

Rehabilitation Return to Training Protocol:

-Plain Films, MRI Arthrogram

-Orthopedic consult to r/i or r/o surgery

-Patient Education and Pain Management will include NSAIDs and Rest

-Progression of RTC Strengthening and Shoulder Stabilization

-Modification of Thrower's Ten Exercises

-HEP

Rotator Cuff Tendinitis

Description: Damage to the tendons of the muscles responsible for proper movement of the shoulder.

Return to Training Prognosis: 2-3 weeks if severe. Mild cases in 2 days

Light Duty: Upper Extremity Exercises Limited, No Overhead Activities

Rehabilitation Return to Training Protocol:

-Rest, NSAIDs, Education. Initially avoid overhead exercises

-If caused by primary impingement: GH and scapular mobilizations, stretching, address scapulohumeral rhythm, RTC strengthening once pain has subsided, and stretch pectoralis minor

-If caused by secondary impingement: Minimal stretching, No mobilizations, address weakness of RTC muscles and any other muscular imbalances causing humerus to be superiorly positioned.

- Injury Prevention Program, HEP

Rotator Cuff Tear Not Requiring Surgery

Description: A minor tear in the muscles used for proper movement and stabilization of the shoulder.

Return to Training Prognosis: 4-5 weeks

Light Duty: Upper Extremity Exercises Limited

Rehabilitation Return to Training Protocol:

-Plain films, MRI Arthrogram and Ortho consult to r/i or r/o surgery

-Conservative Tx same as RTC Tendinitis

Shoulder Anterior Dislocation

Description: A traumatic event where the humerus is forced out of the "socket" and needs to be re-located by a healthcare provider.

Return to Training Prognosis: 6-8 weeks after the Incident

Light Duty: Upper Extremity Exercises Limited, No O'Course, No Swimming, No Running

Rehabilitation Return to Training Protocol:

-Plain Films, MRI Arthrogram if symptoms persist for extended period of time

-Patient Education, Pain Management, Sling x 2 weeks, NSAIDs and Rest

-Minimal Stretching, if any. Avoid open packed position of abduction and ER

-Shoulder Stabilization Exercises: RTC strength, Thrower's Ten, Serratus Anterior, HEP

Shoulder Separation (A-C Joint Separation)

Description: A separation of the small joint on the outside of the shoulder along the collar bone usually caused by a direct trauma or fall on the shoulder.

Return to Training Prognosis: Variable, depending on severity, 2-3 weeks if mild, 4-6 weeks if moderate, may need surgery if severe.

Light Duty: Upper Extremity Exercises Limited, No Swimming, No O'Course

Rehabilitation Return to Training Protocol:

-Rest, Ice, Education, Sling if severe

-AROM once pain has decreased, then PRE and Injury Prevention Program

Subacromial Bursitis

Description: Inflammation of sensitive tissues in the shoulder caused by weak and tight muscles leading to a "pinching" of the underlying structures.

Return to Training Prognosis: 1-2 days. No permanent damage, student should return quickly as they are only limited by pain.

Light Duty: Upper Extremity Exercises Limited, Swimming Limited, No O'Course

Rehabilitation Return to Training Protocol:

-Rest, NSAIDs if severe, education, injection if indicated

-Address RTC imbalances and identify primary versus secondary impingement

-Treated similarly to RTC tendinitis and bicipital tendinitis

-HEP, Injury Prevention Program

HIP

Femoral Neck/Shaft Stress Change

Description: An overuse injury causing a minor change in the bone indicating the beginning of a stress fracture if treatment is not initiated immediately.

Return to Training Prognosis: 16 weeks

Light Duty: No Running, No O'Course, No Swimming, No Lower Extremity Exercises, Crutches, Minimal Walking

Rehabilitation Return to Training Protocol:

-Plain Films, Bone Scan initially and PF at 6 week follow up

-Crutches x 2-4 weeks depending on symptoms, education

-Follow established Protocol: Upper extremity only until off crutches, then stat bike, followed by elliptical

-Alter G-Trainer at 6-8 weeks, followed by walk run program from 13-16 weeks.

Femoral Neck/Shaft Stress Fracture

Description: A small, but significant, fracture of the outside layer of bone. A stress change which has gone undetected will become a stress fracture with continued exercise.

Return to Training Prognosis: A student with this diagnosis cannot return safely to training before a period of 10-12 months even with proper healing and rehabilitation.

Light Duty: No Running, No Swimming, No O'Course, No Lower Extremity Exercises, Crutches

Rehabilitation Return to Training Protocol:

-Plain films, bone scan and PF at 6-8 week follow-up

-Crutches x 4 weeks, education

-Stat bike once off crutches, then elliptical

-At 8-10 weeks Alter G-Trainer, progress weight from 50% to 100% in 10% increments every week.

-Begin walk/run program once G-Trainer is complete and symptom-free

Hip Flexor Tendinitis

Description: Damage to the muscles which raise the hip. Commonly caused by flutter kicks and swimming.

Return to Training Prognosis: Variable, depending on severity. Minor 1-2 days or immediately, moderate 1-3 weeks, severe 4-6 weeks.

Light Duty: No Running, No Swimming, No Lower Extremity Exercises

Rehabilitation Return to Training Protocol:

-Rest, Ice, Transverse Friction Massage

-Once pain has decreased, light hip flexor stretching

-Gluteus maximus and medius strengthening, PRE

-Strengthen hamstrings, and address muscular imbalances

KNEE

Iliotibial Band Friction Syndrome (ITB Syndrome)

Description: Pain on the outside of the knee caused by inflammation of the underlying sensitive structures under the IT band.

Return to Training Prognosis: 1-2 days. No permanent damage, student should return quickly. Student limited by pain only, not structural damage.

Light Duty: No Running, No Swimming

Rehabilitation Return to Training Protocol:

-Education, Rest, Ice

-Stretch ITB, foam and plastic rollers, and tennis/golf ball

-Hip strengthening program, balance exercises, patellar mobilizations, piriformis stretching, gluteus maximus strengthening, monster walks, hip flexor stretching

-Iontophoresis or injection if severe

MCL Sprain

Description: An acute injury caused by a force applied to the outside of the knee, forcing the knee to bend in towards the opposite knee.

Return to Training Prognosis: Variable, depending on severity 4-6 weeks. A complete rupture of the ligament will require evaluation of other structures in the knee. If ruptured in isolation, student should return to training in 6-8 weeks.

Light Duty: No Running, Swimming Minimized, No O'Course

Rehabilitation Return to Training Protocol:

-Rest, Ice, NSAIDs

-Relative Painfree AROM

-Balance exercises, mini squats, 4-way hip with resistance above knee initially

-Transverse friction massage to MCL, should be uncomfortable

-Knee mobilizations for proper external rotation of tibia during extension

-Alter G-Trainer for return to running

Meniscus Tear Not Requiring Surgery

Description: A minor tear of the shock absorbing tissue between the bones of the knee caused by a twisting injury of the knee.

Return to Training Prognosis: 4-6 weeks

Light Duty: No Running, No Swimming, No O'Course

Rehabilitation Return to Training Protocol:

-Plain films, MRI indicated if true knee locking is reported

-Rest, Ice, NSAIDs, Education

-Control swelling, basic PRE

-Balance exercises

-Avoid CKC exercises involving rotation of femur on tibia

Patellofemoral Pain Syndrome

Description: Pain over or under the knee cap caused by overuse and faulty mechanics of the joint.

Return to Training Prognosis: Variable, depending on severity. Mild cases will return in 1-2 days, moderate cases 1-3 weeks, and severe cases involving damage to the cartilage under the knee cap will require 3-5 weeks.

Light Duty: No Running, Lower Extremity Exercises Limited, Swimming Limited, No O'Course depending on severity.

Rehabilitation Return to Training Protocol:

-Rest, Ice, NSAIDs if necessary

-Patellar mobilizations, ITB stretching and using foam roller on quadriceps and ITB

-Hip abductor strengthening PRE, monster walks, stretch piriformis

-Address muscular imbalance of weak gluteus maximus and tight hip flexors

Pes Anserine Bursitis

Description: Pain similar to ITB syndrome, except localized to the inside of the knee. Caused by overuse.

Return to Training Prognosis: 1-2 days. No structural damage, limited by pain only.

Light Duty: No Running, Lower Extremity Exercises Limited, No O'Course, No Swimming

Rehabilitation Return to Training Protocol:

-Rest, Ice, Education

-Stretching of hip flexors, quadriceps

-Mini squats, Monster walks, Hip abductor PRE

-Address muscular imbalance of internal rotators and external rotators

-Stretch piriformis and hamstrings, strengthen gluteus maximus

Tibia Stress Change

Description: An overuse injury of the outside layer of bone on the tibia. Not as severe as a stress fracture, however undetected will develop into a stress fracture if student continues to exercise.

Return to Training Prognosis: 12-14 weeks

Light Duty: No Running, No Swimming, No O'Course, No Lower Extremity Exercises

Rehabilitation Return to Training Protocol:

-Plain Films and Bonescan

-Stat bike, elliptical for 2-3 weeks

-Alter G-Trainer at 50% increments of 10% per week

-Walk/Run Program

Tibia Stress Fracture

Description: A fracture of the outer layer of bone caused by overuse. Is commonly not diagnosed by an X-Ray alone and often requires a bonescan.

Return to Training Prognosis: 16 weeks

Light Duty: No Running, No Swimming, No O'Course, No Lower Extremity Exercises

Rehabilitation Return to Training Protocol:

-Plain films, bonescan and plain films at 6 week follow-up, Education

-Crutches x 3-4 weeks, depending on symptoms

-Stat bike, then elliptical after crutches are discharged

-Alter G-Trainer at 50%, increments of 10% per week

-Walk/Run Program after 100% WB on G-trainer

ANKLE and FOOT

Achilles Tendinitis

Description: Damage to the Achilles tendon in the back of the ankle. Often caused by running overuse, especially in the sand.

Return to Training Prognosis: 2-3 weeks

Light Duty: No Running, No Swimming, No O'Course

Rehabilitation Return to Training Protocol:

-Rest, Ice, NSAIDs if severe

-Pain-free AROM initiated

-Heel lift in boot, possibly orthotics if over-pronator

-Pain-free stretching of Achilles, transverse friction massage

-Strengthening of anterior tibialis

-Posterior tibialis strengthening to prevent over-pronation

Ankle Sprain (High)

Description: Severe damage to ankle ligaments extending into the soft tissue between the two shin bones. Caused by landing on the foot in such a way that the bottom of the foot turns towards the opposite leg. Many ligaments on the outside of the ankle are also damaged. Severity is determined by how high into the shin that the pain is felt.

Return to Training Prognosis: Depending on severity, 6-8 weeks

Light Duty: No Running, No Swimming, No O'Course, Minimal Walking, Athletic Shoes, Crutches

Rehabilitation Return to Training Protocol:

-Plain films required as well as MRI if symptoms are very severe and long lasting

-Crutches x 1-2 weeks, Rest, Ice, NSAIDs, Education

-Maintain pain-free AROM as soon as possible

-Once pain has subsided, PRE using T-bands, towel exercises

-With minimal pain, balance exercises, heel walking, toe walking and heel lifts, calf stretching

-Step ups, lateral step ups, advanced balance

-Alter G-Trainer to initiate running

Ankle Sprain (Low)

Description: A common ankle sprain often caused by a twisting motion at the ankle while running, or landing on the outside of the ankle.

Return to Training Prognosis: 2-6 weeks depending on severity

Light Duty: No Running, No Swimming, No O'Course

Rehabilitation Return to Training Protocol:

-Rest, Ice, NSAIDs if necessary for edema

-Pain-free AROM, alphabet

-Towel exercises followed by T-Band exercises

-Calf stretching, heel walks, heel raises

-Balance exercises, steps ups, lateral step ups

-Strengthen peroneal muscles and dorsiflexors

Metatarsal Stress Fracture

Description: An overuse injury to the bones in the foot just behind the toes.

Return to Training Prognosis: 16 weeks

Light Duty: No Swimming, No Running, No O'Course, Minimal Walking

Rehabilitation Return to Training Protocol:

-Plain films and bonescan, education

-Crutches x 3 weeks, athletic shoes if severe pain, and possibly carbon fiber insert

-Can initiate stat bike immediately if no pain

-Progress to elliptical 2 weeks after crutches are discharged

-Alter G-Trainer to initiate running at 8 weeks at 50% with 10% increments

-Walk/Run Program

Plantar Fasciitis

Description: Inflammation of the thick tissue on the bottom of the foot extending from the heel to the front of the foot.

Return to Training Prognosis: Variable, 4-8 weeks depending on severity

Light Duty: No Running, No O'Course

Rehabilitation Return to Training Protocol:

-Rest, Ice, Night splint, Orthotics if indicated

-Rolling of the plantar fascia with frozen water bottle

-Transverse friction massage

-Dorsiflexion stretching of big toe

-Achilles tendon stretching, strengthening of dorsiflexors

Miscellaneous Injuries

Low Back Pain

Description: Pain often caused by acute muscle spasm or ligament damage

Return to Training Prognosis: 1-2 days depending on severity

Light Duty: No Swimming, No O'Course, Running Minimized

Rehabilitation Return to Training Protocol:

-Pain management including ice/hot packs, E-Stim, manipulation

-Education regarding back pain

-HEP including lumbar stabilization exercises

Rib Fracture

Description: A traumatic injury often caused by the Dirty Name.

Return to Training Prognosis: 6-8 weeks

Light Duty: No O'Course, No Running, No Swimming, Upper Extremity Exercises Limited

Rehabilitation Return to Training Protocol:

-Rest, Ice, NSAIDs

-Minimize heavy breathing and upper extremity overhead exercises initially

-Progress exercises as tolerated