

Anterior Instability Protocol
(post op anterior reconstruction)

Phase I: (0-2 weeks)

Goals:

Protect surgery
Decrease pain and inflammation
Initiate safe ROM while protecting anterior capsule
Patient education

Plan:

PROM limited to 90° of flexion and abduction
Elbow and wrist ROM
Modalities PRN
Pendulum and scapular activities
Light isometric activity
Light resisted activity to wrist

Phase II (4-6 weeks)

Goals:

Decrease pain and inflammation
Achieve 60-80% of full ROM of flexion, extension and IR.

*****This DOES NOT include abduction/ER*****

Plan:

Begin increasing forward elevation (flexion in scapular plane) beyond 90°
Joint mobilization: avoid aggressive mobs/avoid inferior and anterior;
external rotation directions
AAROM
Aquatic Therapy
Gentle rotator cuff strengthening (ER to neutral)
Check with physician on rotation limitations

Phase III (8-16 weeks)

Goals:

Near full ROM: EXCEPT ABDUCTION/EXTERNAL ROTATION
Good scapulo-humeral rhythm
80-90% normal strength

Plan:

PROM (full range; ER near full-range):
**NO FORCE IN ABDUCTION/EXTERNAL ROTATION
Joint mobilization
Progressive rotator cuff strengthening
Begin machine weighted exercise
Gentle PNF, eccentric cuff strengthening
Biodex training if requested by M.D.

Anterior Instability Protocol
(post op anterior reconstruction)

Phase IV (>24 weeks)

Goals:

Maximum ROM

Increase strength

Return patient to sport/activity

Plan:

Continue with progressive resistive exercises

Continue with machine weighted program

Sport Specific Training

SLAP LESION PROTOCOL

There are no specific time guidelines to progress the patient through each phase. However, it is important to review the Phase duration guidelines proposed and not progress the patient too quickly. The therapist must take into consideration the individual patient's healing rate; extent of surgery; subjective and objective findings before advancing to the next phase.

For Throwing Athletes: throwing should only begin when full pain free ROM and full strength is achieved

Phase I (0-6 weeks)

Goals:

- Protect surgery
- Decrease pain
- Decrease inflammation
- Patient Education
- Home Exercise Program

Plan:

- Sling: 0-6 weeks (usually 3 weeks – check with physician)
- Pendulum/cane - begin at 3 weeks
- Pulley – begin at three weeks
- Cervical Spine Stretches
- Scapular mobilization and strengthening – as soon as possible
- PROM – begin at 3-4 weeks ****To protect labrum: avoid abduction/External rotation at extreme end-range
- Aquatic Physical Therapy
- Isometrics
- Modalities
- ****Avoid heavy bicep work*****

Phase II (about 4 – 6 weeks)

Goals:

- Control pain
- Control Inflammation
- Improve functional ROM
- Increase Strength
- Home Exercise Program

Plan:

- Modalities
- Continued scapular and glenohumeral mobilization
- Advance Scapular and Rotator cuff strengthening with light theraband and PRE's
- UBE
- Advance pool exercises

SLAP LESION PROTOCOL
continued

Phase III (6 weeks +)

Goals:

Functional ROM

Normalize Strength/power

Return to activities (work, sports)

Light sports at 3 – 4 months

Heavy throwing at 4 – 6 months

Plan:

Advance strengthening program: weight training

Improve coordination: i.e.: diagonal lifting, plyoball,

Sports Specific training

Home Exercise Program

Shoulder Decompression/Debridement Protocol

Phase I:

Goals:

Decrease pain and inflammation
Increase ROM
Increase strength
Patient education

Plan:

Ultra-sling (0-2 weeks)
Modalities PRN
Scapular and glenohumeral mobilization
Pendulums/cane/pulley
Isometrics in all directions
Bicep/tricep exercises
Aquatic therapy

Phase II

Goals:

Decrease pain and inflammation
Full ROM
Increase strength

Plan:

Decrease sling if comfort allows
Self-stretches
RTC stretches
UBE
Initiation of machine weighted program (gentle)

Decompression/Debridement

CONTINUED

Phase III

Goals:

Full painfree ROM
Increase power and endurance
Prepare for specific functional/sports program

Plan:

RTC strengthening (90/90 position)
Scapular strengthening
PNF
Isokinetic testing if requested by M.D.

Phase IV

Goals:

Maximum ROM
Increase strength
Return patient to sport/activity

Plan:

Continue with progressive resistive exercises
Continue with machine weighted program
Sport Specific Training

Shoulder Impingement Protocol **Conservative Non-Surgical**

Phase I: (acute 1-2 weeks)

Goals:

Decrease pain and inflammation
Retain 75% of normal ROM
Maintain normal joint accessory motion
Patient education

Plan:

PROM, AAROM (limit overhead ROM)
Joint mobilization (emphasize inferior glide)
Modalities PRN
Isometric shoulder strengthening (include scapula and RTC)
Resisted elbow and wrist exercise
Soft tissue mobilization PRN to supscapularis and pec minor
Scapular PNF

Phase II (2-12 weeks)

Goals:

Full ROM
Return to overhead activity with pain symptoms as guideline
Strengthen shoulder girdle with emphasis on humeral head depressors

Plan:

PROM and AAROM
Joint mobilization; soft tissue mobilization
RTC strengthening
Machine weighted exercise
Modalities PRN

Phase III (12-16 weeks)

Goals:

Full AROM and PROM
Strength WNL
Painfree return to functional and/or sport activities

Plan:

Continue strengthening
Self-stretching
Sport Specific/work specific training
Reinforcement of patient education

Medium Sized Full Thickness Rotator Cuff Repair Protocol

Phase I - 0-6 weeks

Goals:

- Protect surgery
- Decrease pain and inflammation
- Increase painfree range of motion
- Maintain distal muscle strength
- Patient education

Plan:

- Ultra-sling (0-6 weeks)
- Modalities including heat, IFC, ultrasound
- Elbow, wrist and hand exercises
- Cervical spine stretches
- Pendulum exercises
- Scapular mobilization and strengthening
- Begin PROM: gentle flexion to 90°, abduction, ER and IR as tolerated
- Aquatic therapy after 3 weeks
- Cane exercises at end of phase I
- Home Exercise program

Phase II - 6 to 12 weeks

Goals:

- Control pain and inflammation
- Functional range of motion by end of phase II
- Begin strengthening
- Able to perform self-care ADL's with involved extremity

Plan:

- Modalities PRN
- AAROM with cane: all directions as tolerated
- PROM: all directions as tolerated with caution into flexion
- Glenohumeral joint mobilization
- Isometric rotator cuff strengthening progressing to theraband exercise
- Bicep, tricep and scapular strengthening
- UBE (mid phase II)
- PNF for scapula and shoulder
- Home exercise program



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Medium Sized Full Thickness Rotator Cuff Repair Protocol (continued)

Phase III - 12 to 24 weeks

Goals:

- Full, painfree ROM
- Painfree overhead activities
- Improve strength and neuromuscular control (80% normal strength)
- Progress activity specific exercises
- Improve endurance

Plan:

- UBE
- Self stretches
- Progress rotator cuff and scapular strengthening
- Machine weighted strengthening
- Begin coordination exercises (ball toss, Body Blade)
- Biodex testing/training if requested by M.D.

Phase IV - 24 weeks+

Goals:

- Improve strength (100%)
- Return to sport

Plan:

- Self stretches
- Progress strengthening, coordination and endurance exercise
- Sport/activity specific exercise

Large Complete Rotator Cuff Tear Protocol
along with severe tendon retraction

Phase I: (0-6 weeks)

Goals:

- Protect surgery
- Decrease pain and inflammation
- Gentle passive ROM
- Patient education

Plan:

- Ultra sling (0-6 weeks depending on repair)
- Hand, elbow, wrist exercises immediately post-op in sling
- Cervical spine stretches
- Modalities PRN
- Scapular mobilization and muscle tone
- Thoracic mobilization
- At 4-6 weeks post-op:

- Aquatic Therapy
- Pendulums – may begin at 2-3 weeks
- PROM (flexion to 90°, abduction to tolerance – being cautious with this movement, IR/ER as tolerated at 30° shoulder abduction)

Phase II (6-12 weeks)

Goals:

- Control pain and inflammation
- Continue to work on ROM throughout phase; use caution through-out.
- Begin gentle strengthening

Plan:

- Modalities PRN
- Aquatic therapy combined with gentle resistive activity
- Scapular and glenohumeral mobilization
- PROM (caution with flexion)
- Begin scapular strengthening
- Isometric IR/ER
- Bicep/tricep strengthening
- UBE

Large Complete Rotator Cuff Tear Protocol
along with severe tendon retraction

CONTINUED

Phase III (12-24 weeks)

Goals:

Functional ROM

Improve strength/neuromuscular control

End phase begin sport/activity training

Plan:

Stretching PRN

Instruct in self-stretching

Increase strength and endurance of upper quadrant

Begin machine weighted exercise

Begin coordination exercises

Biodex training/testing if requested by M.D.

Phase IV (24+ weeks)

Goals:

Maximum ROM

Increase strength

Return patient to sport/activity

Plan:

Self-stretching

Strengthening RTC at 0°, 45°, 90°

Advanced machine weighted exercises

Specific sports related activities

Knee Arthroscopy Protocol

Acute Phase I: (0-2 weeks)

Goals:

- Alleviate acute pain and swelling
- Increase ROM
- Increase hip, hamstring and quadricep strength
- Promote normal ambulation
- Maintain cardiovascular conditioning

Plan:

- ROM
- Heel/wall slides for ROM
- Aquatic therapy
- Hamstring and gastroc stretching
- Kinesiotaping as necessary
- Bicycle as tolerated
- Patellar mobilization
- Prone and/or standing knee flexion
- 4-Quad (hip flexion, abduction, adduction, extension)
- Modalities for pain and edema control

Sub-Acute Phase I: (2-4 weeks)

Goals:

- Decrease swelling
- Increase ROM
- Increase strength hip/knee
- Improve general conditioning
- Independent ambulation w/o assistive device

Plan:

- Continue Phase I exercises
- N-K for hamstrings only
- ROM knee flex/ext
- Stairmaster, treadmill, bicycle
- Universal equipment PRE's – leg press
- Proprioceptive and balance training BAPS and trampoline
- Closed chain activity
- Calf raises

Knee Arthroscopy Protocol

CONTINUED

Phase III: (4-6 weeks)

Goals:

Full ROM (pain free)
Increase strength and power

Plan:

Continue Phase II exercises
Increase closed chain activities (step up, side, down)
Increase proprioception activity (sport cord)
Light jogging on trampoline

ACL Reconstruction Protocol

Phase I: Acute

Goals:

- Alleviate acute pain and swelling
- Increase ROM 0-90° (emphasize 0° extension)
- Increase hamstring and quadriceps strength
- Promote comfortable ambulation WBAT with brace and crutches
- Maintain cardiovascular conditioning

Plan: (0-2 weeks)

- Patellar mobilization
- PROM positioning for knee extension
- ROM
- Heel/wall slides w/o brace
- ½ revolution non-resisted bike for knee flexion – progress to full revolution when patient reaches 110°
- Hamstring and quadriceps co-contraction
- Hamstring and calf stretching
- 4-Quad (hip flexion, abduction, adduction, extension)
- Modalities for pain and edema control

Plan: (2-6 weeks)

- Soft tissue/scar mobilization
- Prone/standing knee flexion
- Proprioceptive training/balance – BAPS, trampoline
- Weight shifting in standing, 0-30° ROM mini-squats
- EMS co-contraction at VMO and hamstrings
- Theraband ankle exercises- progress to standing as WB dictates
- Begin Stairmaster at 4 weeks
- General conditioning
- Aquatic therapy (when incisions healed) No whip kick

ACL Reconstruction

CONTINUED

Phase II (6-12 weeks)

Goals:

- Decrease swelling and prevent atrophy
- Increase ROM 0-125°
- Increase quadriceps and hamstring strength
- Increase hip strength
- Stimulate collagen healing
- Independent ambulation without crutches
- Continue general conditioning

Plan:

- Continue phase I exercises
- Continue patellar mobilization and ROM activities
- Continue hamstring and calf stretching
- Standing ½ squat
- Joint and soft tissue mobilization as needed
- Isotonic hamstring NK table
- Leg press
- Continue closed chain, balance and proprioceptive activities
- Continue EMS as needed for muscle re-ed and edema
- Step-ups (controlled - forward and side)
- *McConnell taping as necessary
- May begin swimming with modified kick (No "whip kick" or "egg beater kick")
- General conditioning

Phase III (12-16 weeks)

Goals:

- Full ROM
- Continue all goals from Phase II

Plan:

- Continue phase II exercises and progress as tolerated
- Step-Up - side and down
- Increase proprioceptive training (sport cord, body blade, plyoballs)
- Treadmill as tolerated
- Continue Stairmaster
- ½ wall sits as tolerated

ACL Reconstruction

CONTINUED

(16-20 weeks)

Plan:

Light jogging on trampoline

¼ to ½ squats (painless)

Progress with closed chain activity

Isotonic terminal knee extension (30-0°)

Phase IV (20-36 weeks)

Goals:

Development of strength, power and endurance

Begin to prepare for return to recreational activity

Begin sport specific training

Plan:

Continue Phase III exercises and conditioning activities

Continue strength training

Initiate running program

Initiate agility drills

Sport specific training and drills

Isokinetic evaluation

ACL Reconstruction Protocol
(+/- Meniscus Repair)

Phase I: (0-6 weeks)

Goals:

- Alleviate acute pain and swelling
- Increase ROM 0-90° (emphasize 0° extension)
- Increase hamstring and quadriceps strength
- Promote comfortable ambulation WBAT with brace and crutches
- Maintain cardiovascular conditioning

Plan: (0-2 weeks)

- Patellar mobilization
- PROM positioning for knee extension
- ROM
- Heel/wall slides w/o brace
- ½ revolution non-resisted bike for knee flexion – progress to full revolution when patient reaches 110°
- Hamstring and quadriceps co-contraction
- 4-Quad (hip flexion, abduction, adduction, extension)
- Modalities for pain and edema control

(2-6 weeks)

Plan:

- Soft tissue/scar mobilization
- Prone/standing knee flexion
- Proprioceptive training/balance – BAPS, trampoline
- Weight shifting in standing, 0-30° ROM mini-squats
- EMS co-contraction at VMO and hamstrings
- Theraband ankle exercises- progress to standing as WB dictates
- Begin Stairmaster at 4 weeks
- General conditioning
- Aquatic therapy (when incisions healed) No whip kick

ACL Reconstruction
(+/- Meniscus Repair)

CONTINUED

Phase II (6-12 weeks)

Goals:

Decrease swelling and prevent atrophy
Increase ROM 0-125°
Increase quadriceps and hamstring strength
Increase hip strength
Stimulate collagen healing
Independent ambulation without crutches
Continue general conditioning

Plan:

Continue phase I exercises
Continue patellar mobilization and ROM activities as objective findings warrant
Standing ½ squat
Joint and soft tissue mobilization as needed
Isotonic hamstring NK table
Leg press
Continue closed chain, balance and proprioceptive activities
Continue EMS as needed for muscle re-ed and edema
Step-ups (controlled - forward and side)
*McConnell taping as necessary
General conditioning

Phase III (12-16 weeks)

Goals:

Full ROM
Continue all goals from Phase II

Plan:

Continue phase II exercises and progress as tolerated
Step-Up - side and down
Increase proprioceptive training (sport cord, body blade, plyoballs)
Treadmill as tolerated
Continue Stairmaster
½ wall sits as tolerated

ACL Reconstruction
(+/- Meniscus Repair)

CONTINUED

(16-20 weeks)

Plan:

Light jogging on trampoline
¼ to ½ squats (painless)
Progress with closed chain activity
Isotonic terminal knee extension (30-0°)

Phase IV (20-36 weeks)

Goals:

Development of strength, power and endurance
Begin to prepare for return to recreational activity
Begin sport specific training

Plan:

Continue Phase III exercises and conditioning activities
Continue strength training
Initiate running program
Initiate agility drills
Sport specific training and drills
Isokinetic evaluation

Knee Arthroscopy with Arthroplasty/Chondroplasty Protocol

Pre-Op:

1. Instruct in isometrics – QS, hamstring sets, gluteal sets, heels slides, ankle pumps
2. Instructions in gait training w/ crutches/walker, including stair climbing
3. Instructions in EMS unit (if ordered by M.D.) for pain relief and muscle re-education

Post-Op

1. Evaluation by a Physical Therapist
2. Progress with home exercise program

Rehabilitation Considerations:

Due to the shaving of the chondral surface of the femur and tibia in order to encourage cartilage regrowth, the following issues should be considered in your rehabilitation program:

1. Avoid forced ROM. Each patient should progress knee flexion and extension within their limits.
2. Try to avoid weight bearing and closed chain activities early during their healing process. Chondroplasty patients take much longer to heal, generally have significantly more pain and do better with open chain activity/exercises.
3. Bicycle exercise can irritate these patient post-op secondary to the ROM needed to make full revolution.
4. Pool therapy is an excellent method of rehabilitation for abrasion chondroplasty patients, avoid cycling.
5. Keep exercises simple. These patients can take 6-12 months to heal and due well with a good home exercise program.
6. Listen to the patient! Any exercise that causes an increase in pain or flare-up of symptoms should be held until the knee calms down. It should only be reintroduced in the program if and when the patient can perform the exercise without pain.

Knee Arthroscopy with Arthroplasty/Chondroplasty

CONTINUED

Acute Phase I:

Goals:

- Alleviate acute pain and swelling
- Increase ROM
- Increase hip, hamstring and quadricep strength
- Promote normal ambulation
- Maintain cardiovascular conditioning

Plan:

- ROM as tolerated
- Heel/wall slides w/o brace
- Aquatic therapy
- Hamstring and gastroc stretching
- Kinesiotaping as necessary
- Patellar mobilization
- Hamstring and quadriceps co-contraction
- 4-Quad (hip flexion, abduction, adduction, extension)
- Modalities for pain and edema control

Sub-Acute Phase I:

Goals:

- Decrease swelling
- Increase ROM
- Increase strength hip/knee
- Improve general conditioning
- Independent ambulation w/o assistive device

Plan:

- Continue Phase I exercises
- N-K for hamstrings only
- ROM knee flex/ext as tolerated
- Stairmaster, treadmill, Elliptical (PAINFREE)
- Universal equipment PRE's - leg press $\frac{1}{4}$ to $\frac{1}{2}$
- Proprioceptive and balance training BAPS and trampoline
- Calf raises
- Aquatic therapy
- Avoid knee extension exercises

Knee Arthroscopy with Arthroplasty/Chondroplasty

CONTINUED

Phase III:

Goals:

Full ROM (pain free)
Increase functional strength

Plan:

Continue Phase II exercises
Closed chain activities
Increase proprioception activity

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Isolated Meniscus Repair Protocol

(0-4 weeks)

Goals:

Alleviate acute pain and swelling

Prevent muscle atrophy

Gentle AROM

***Promote comfortable ambulation WBAT with brace and crutches
OR

***IF "ALL INSIDE" TECHNIQUE, THEN NON-
WEIGHTBEARING FOR FOUR WEEKS. CHECK WITH
PHYSICIAN.

Maintain cardiovascular conditioning

Plan:

Knee immobilizer at all times for walking

Weight bearing dictated by M.D. depending on surgical technique

Exercises: Range of motion out of brace

Isometrics

Hip flexion, abduction, adduction, extension

Knee flexion exercises (prone, standing or NK table)

Early proprioceptive training

Ankle exercises (theraband)

LE stretching (ham/gastroc)

Bike: light resistance (if ROM >90°)

Modalities as needed (EMS for muscle re-ed; IF for
edema control)

(4-6 weeks)

Goals:

Independent ambulation

Increase ROM

Plan:

Ambulation without brace

Continue previous exercises (progress as tolerated)

Closed chain exercises (ok squats to 60°)

Progress with cardiovascular exercises

(Stairmaster, bike, elliptical)

May begin gentle swimming (no whip kick, egg beater kick)

*ROM 0-90°

Isolated Meniscus Repair

****CONTINUED****

6-10 weeks

Goals:

Full ROM

Increase quadriceps and hamstring strength

Continue general conditioning

Plan:

Full symmetric ROM

Normal gait

Continue with previous strength (progress as tolerated)

Squats ok to 90°

10 Weeks

Goals:

Improve proprioception

Improve strength

Plan:

Begin running on track

Progress with proprioceptive training

Continue with strength training

12 Weeks

Goals:

Return to sports

Plan:

Progress with higher level activity and sport training



AC Joint Reconstruction Protocol

Preoperative

Goals:

1. *Patient is independent in their post op home exercise program*
2. *Patient understands instructions for post operative use of ice*
3. *patient understands restrictions post operatively*

Treatment:

- Initiation of post operative HEP to include:
 - o Pendulum exercises: Small arc, short lever
 - o Ball squeezes
 - o Bicep and Tricep training (TBand)
 - o Isometric External Rotation and Internal Rotation exercise
 - o Isometric flexion/extension/abduction/adduction exercises
- Post operative care instruction to include precautions and contraindication
 - o DO NOT let weight of arm pull on surgical area
 - o DO NOT elevate surgical arm above 90 degrees in any plane for the first 4 weeks post operative.
 - o DO NOT lift any objects over 5 pounds with the surgical arm for 6 weeks
 - o Caution to avoid over excessive reaching in any plane for the first 6 weeks
 - o Use sling if standing or walking for the first 6 weeks
 - o Use good posture

Postoperative Week 1

Goal:

1. *Initiate HEP post operatively*
2. *Protect surgical site*
3. *Control symptoms*
4. *Maintain cardiovascular fitness*

Treatment:

- Perform exercises noted above 3 times per day
- Use ice for 15 minutes per application to control pain and swelling.
- Maintain good posture when standing or sitting
- Walking or exercise bike (in sling)
- LE resistance exercises if able to protect surgical area.
- Core therapeutic exercises if able to protect surgical area

Postoperative Week 2 – 3

Goal:

1. *Improve functionality of all associated musculature*
2. *Progress mobility off the involved Upper extremity.*
3. *Maintain cardiovascular fitness*

4. Control symptoms

Treatment:

- Soft tissue treatment to scapular/cervical and upper arm musculature
- Initiate PROM and light mobilization to the G-H Joint while stabilizing the AC joint proximally.
- Continue walking/ exercise bike for fitness
- LE strengthening exercise
- Core work
- Modalities to control pain

Postoperative Week 4 – 6

Goals:

1. *90° of shoulder flexion and abduction*
2. *Initiation of AROM*
3. *Maintain cardiovascular fitness and LE/trunk strength*
4. *Control symptoms*

Treatment:

- AROM through the mid ranges
- Consider pool if surgical site is well healed
- AROM and very light resistance for internal and external rotation through 75% of total ROM
- Continue cardiovascular exercise, LE/Core strengthening
- Modalities to control pain

Note: Avoid shoulder elevation and extreme end ranges of motion

Postoperative Week 6 – 12

Goals:

1. *Full ROM active and passive.*
2. *Normalized gleno-humeral and scapulo-thoracic mobility*
3. *Progress Active assist and Active ROM exercises*
4. *Maintain/progress cardiovascular fitness and LE/trunk strength and stability*
5. *Control symptoms*

Treatment:

- Add A/AROM and AROM exercises through full ROM all planes
 - o Wand exercises
 - o Shoulder pulleys
 - o Mild resistance scapular training
 - o PNF
 - o Pool
- Avoid overhead lifting and tractioning of the surgical site.
- UBE at chest level 0-mild resistance**
- Joint mobilizations GH and ST joints
- Continue walking, exercise bike, add elliptical and consider jogging
- Modalities for pain and symptom control

Postoperative Week 12 on

Goals:

1. *Full ROM with normalized strength all planes*
2. *Return to sport/work related activities*
3. *Independent exercise program*
4. *Resume sports participation at 4 months (6 months if contact sport)*

Treatment:

- PRE's through all planes of movement to tolerance including
 - o Rotator Cuff
 - o Scapular musculatures
 - o Shoulder joint proper
- Increased intensity of cardio/LE/Trunk strengthening
- Begin and progress sport specific activity.
- If a thrower, initiate Return to throwing program once full ROM and strength is restored

The above is a guideline for progressions with therapy. Patient response is individual and may not coincide with progressions noted. A patient should not progress faster than the guidelines noted above. Return to sports is determinant of the surgeon approval after the patient is able to demonstrate full ROM and full strength through required functional use of their sport or work.

DRAFT

*UBE not to be used with Dr. Auerbach patients