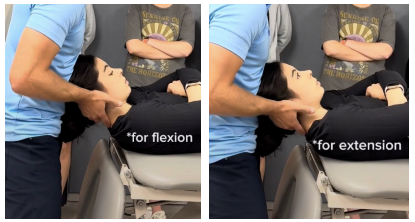
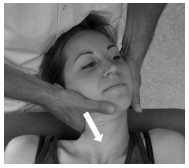
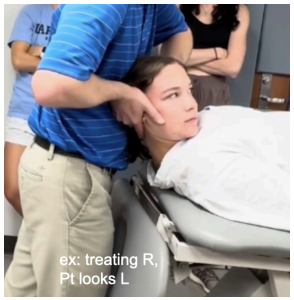
CERVICAL TECHNIQUES

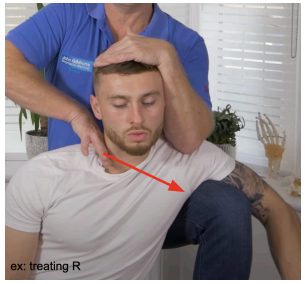
	Technique	Indications	HEP
C/s PAIVMs -CPA -UPA *(F=towards eye d/t facet angulation)* 	Alt hand grips for above/below CTJ - Broader hand (on/either side SP) - C grip (stand at side of table) - Shark fin (upper thoracic manips) If prone: pull tissue up If s/l: typ older pts who can't tolerate prone, spondylitic, or globally tight If supine: UPA-mobilize using finger/ IPJ (pronate a lil to get along articular pillar, esp lower c/s)	Improve mobility/pain/fxn	Self-SNAG
C/s PPIVMs -flex/ext -rotn -SB 	Flex: feel for gapping SP Ext: feel for approximation SP SB: slide fingers to lat aspect SP, feel for IL approximation *or* CL opening - SB **to** the segment, not down to it (upper c/s=clown car, lower c/s=bus) Rot: ex C3-4 L rot - Feel on R articular pillar, stop once bottom segment starts moving - Arms should slide agst pillow! Good body mechanics!!	Set up for tx techniques↓	Self-SNAG (flex, ext, rotn) Passive OP (flex, ext, rotn, SB) Contract-Relax (flex, ext, rotn, SB) Open Books (initiate from c/s>>shld) Archer Pulls with or without band/cable machine

Tx Techniques -upslope -downslope -prone rotational CTJ **thrust done in direction of primary lever* *ex: R C3/4*  ↑upslope  ↑downslope  ↑prone rotational CTJ	<u>Upslope</u>: ex treating R - 1Rot L, 2SB R - Thrust: L rot→L eye <u>Downslope</u>: ex treating R - 1SB R, 2Rot L - Thrust: R SB→L scap - Ensure hand on ant aspect articular pillar, cock elbow out for best body mechanics Alt chin hold for downslope C6-7 (bc ur far away) <u>Prone Rotational CTJ</u>: treat L - Pt looks up at wrist on table corner - Push down on CTJ until you see head stops moving - 1 hand stabilizes head, other hand mobilizes toward opp axilla (elbow tucked in and trunk twist to mob) Alt position: stiff thumb edition - Ex C7-T1, hand stabilizes C7 and mobilizing T1 - Grab UT and push across on lateral aspect SP, other hand stabilizes head	<u>Upslope</u>: for opening <u>Downslope</u>: for closing Want to push into max eng-rg to help get into that position (ex: volleyball players, electricians) ⚠️CAD, VBI	Self-SNAG: rotation, combined motions (SB, rot, ext)
Upper Cervical Stability Tests -sharp purser -alar  ←sharp purser	<u>Sharp-Purser</u>: done **first** bc relieving of sxs!! - Tests transverse lig - Flex head 30° (makes C2 prominent), push using key grip while other hand stabilizes forehead - [+] relieve N/T/HA, excessive mvt, clunk	Suspect compromised ligamentous stability ←document whether you think d/t excessive motion (“their norm” e.g. EDS, hypermob) or sxs relief (true +)	Triage/referral dependent on findings and chronicity (e.g. acute→PCP!!, chronic→TBD)

 ←alar	<u>Alar</u>: - Neutral: pinch C2 and SB neck, should bump into CL finger immediately - [+] no mvt - Can do in flex/ext to bias more but typ only done if [+] in neutral (all 3 positions must be + to have true concern)		
OA Joint *"yes"* -assessment -MET (C0-1)  ←OAJ assessment	<u>Assessment</u>: SB away, ROT toward, nod+retract - Want OAJ as close to floor as possible while gapping - Therapist shoulder as fulcrum on forehead (e.g. testing R side, therapist uses R shld) <u>MET</u>: Treating R - L SB, R rot, nod+use eyes only to look up at therapist shoulder	Improve mobility/fxn/pain  ←OAJ treatment	PNF strengthening (chin tuck) →addl bias for ex R: SB L, rot R
AA Joint *"no"* -assessment -MET (C1-2)  ←AAJ assessment	<u>Assessment</u>: Fingers on C2 TPs -max cervical flex to get out of equation, assessing rotation to ~45deg (axilla) -looking for 10deg difference b/w sides or 35deg/less <u>MET</u>: Treating R - Rot R, only eyes look L - Hold 5-7s then release, sxs/HA/stretch should feel better - Can go into new barrier or stay there if they already got a lot of motion here	Mobility deficit/pain Cervicogenic HA (bc 50% rotation from C1-2)  ←AAJ treatment	AAJ Self-SNAG

1st Rib
-assessment
-tx
-HEP

←assessment



←treatment

Assessment: cervical rot/lat flex
- Pt sitting EOT, Therapist blocks trunk behind pt using body +testing rib
- Test R: pt looks L+flex
- Test L: pt looks R+flex
- [+] feels stiff/stuck, like a wall/can't move past

Treatment: ex- treating L side, therapist R leg up (pt's arm resting on it)
- Neck L SB + body R side glide (putting L side tissues on slack)
- Fapp towards opp axilla, C grip using 2nd MCPJ or pinky side

HEP: 1st rib self mob w towel
- Trying to depress 1st rib (press more into that angle downward)
- SB away, can target ant/mid/post scalene by different addl mvts (slight ext, look up+away)

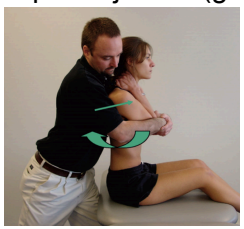
TOS
Breathing-related pain (eg. runners overutilizing accessory breathing mm)

←self mobilization

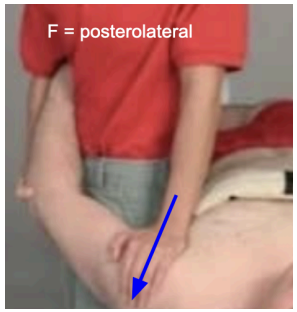
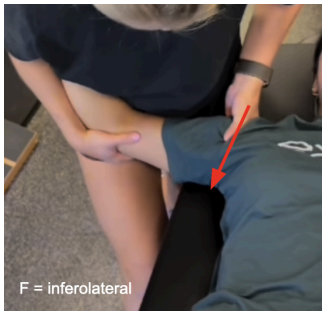
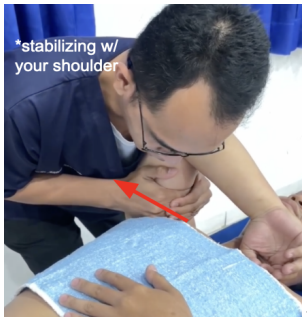
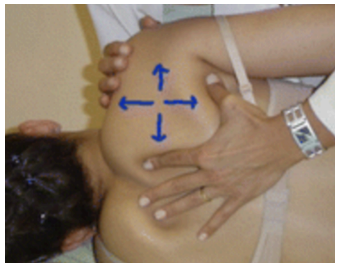
Self Mob w towel/strap
→can target diff scalene m. fibers
-anterior scalene: add IL ext/rot
-posterior scalene: add CL flex/rot

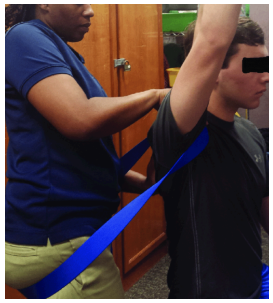
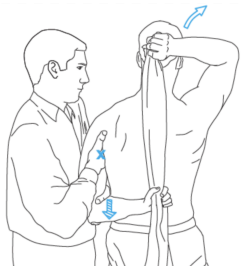
THORACIC TECHNIQUES

*not used much clinically

	Technique	Indications	HEP
Thoracic Mobs/Manip -PAIVMs: CPA, UPA -Rib angle/springing  ←T/s PAIVMs  ←rib angle/springing	1 thumb away = facet pt, 2 thumbs away = TP Mobs/Manip: T1-3: at head of table, T3-12: at side of table, *change angle of force 2/2 spinal curve More ext- screw technique: hands on either side of t/s lvl (pisiforms touching), rotate to create skin lock, mob/manip Rib Spring: pt prone, therapist hand blocks IL facets while other hand angles down rib	Thoracic mob/manip: promotes ext, typ T3-8 and not done at lower levels bc it feels funky (pulsating sensation at abdomen) Rib Spring: thoracic/rib hypomobility or pain (e.g. posture, joint stiffness, injury) ⚠️ Pts w breast implants XAcute Trauma (e.g. MVA, fx, infection) XCardiovascular (e.g. AAA, PE)	Work in new range! T/s chair extension Foam roller (+OH reach) Open books/Archer pulls Seated rot/SB stretch (self-OP) Lat stretch Cat-Cow
Pistol Grip HVLA -mid thoracic -upper thoracic Alt hand positions: -pistol -thumbs up -broad valley grip Alt set-up: -thrust in air (osteoporotic, UL opening issue)	Apex of thrust in max flex to gap!! (mid t/s=bridge, upper t/s=hella bridge) Treating above the segment ur blocking…pt hooklying, edge of table Setup: -pt hugs themself -find segment (SP in ur gutter) -tuck them into ur armpit -football cradle +bridge -thrust while maintaining	Flexion-based mvt 	^
Mid Thoracic HVLA* -alt hold: bear hug (interlaced, towel), 1 shoulder lock (UL injury)	Pt: long sit with hands on hips Therapist: stride stance, takes hands behind head–instruct pt to pec squeeze, wt shift back and PPIVM to localize, thrust (chest pop+leg lift)	Improve jt mob (gapping) 	^

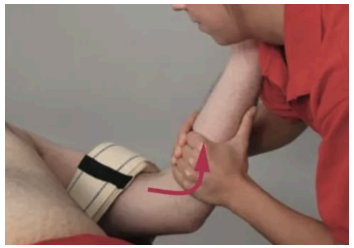
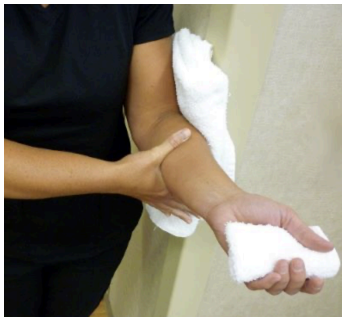
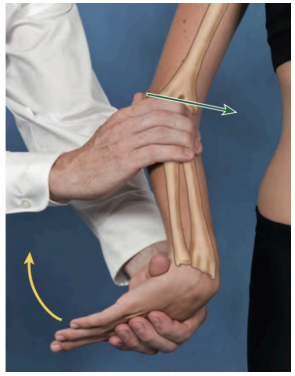
SHOULDER TECHNIQUES

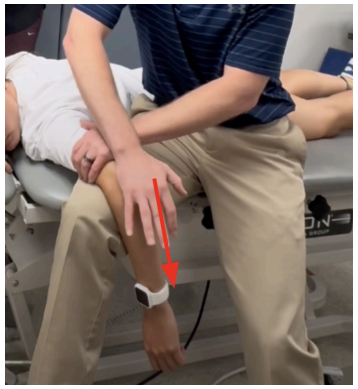
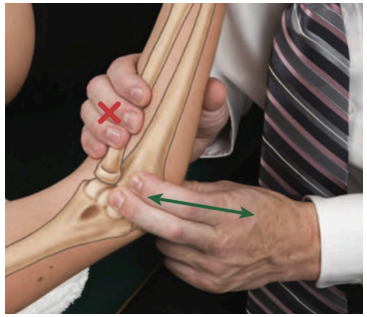
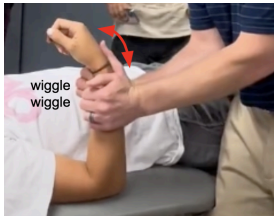
	Technique	Indications	HEP
GHJ Glides -posterior -inferior -lateral  ←post glide	Posterior: posterolateral force on HH, alt posn-'accordion' or 'achoo' Inferior: inferolateral force on HH (towards outside of their foot) Lateral: pt in HADD, straight lateral force using your shoulder as counterpressure  ←inf glide	Incr ROM Posterior: flex, ER Inferior: flex, scaption, ABD Lateral: general mobility, ABD  ←lateral glide	Posterior Glide: - Looped band in door hinge positioned slightly below shoulder height - Prone on elbows +body shifting Inferior Glide: - Looped band in door hinge positioned lower at low back/hip height - Belt/towel with seated roll-out or standing walk-out Lateral Glide - Looped band in door hinge positioned at mid t/s, pt standing at angle/⊥ to door
Scapular Mobs -sup, inf, med, lat -PNF 	More contact points the better! (get all up on them borders bb) Sup/Inf: hands on sup/inf borders, push up/down respectively Medial: hands on lateral border, push down to spine Lateral: hands on medial border, slide away (need scap to glide around ribs!); can apply distraction PNF for strengthening/control -straight planes -combined motions e.g., "opposite pocket"	Incr general motion -frozen shoulder -post op Improve mechanics/fxn, Decompressing n./t. -TOS/impingement -poor motor control -instability (esp multidxnl)	ITYWs Scapular retractions/CARs Supermans

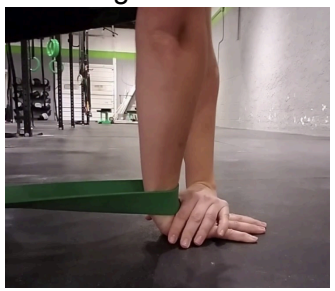
Shoulder MWM -elevation -HBB  ←MWM elevation  ←MWM HBB	MWM = pt driven!! Incr window of opportunity!! Elev: support pt's arm on urs, hands on HH and scap, addl options: scap up rotn post glide inf glide (+compression) facilitate rotn (fxnl reach) HBB: hands at elbow and under axilla (can distract or control motions required–IR, ADD, Ext), pt grabs their wrist to pull across+away from back	Provide assist in different motions to see if it changes their pain or can go into more motion Ease off as pt does more reps and sxs go away *Test-Treat-Retest!*	Work in new range! Elev: anchor band/belt /towel on HH with hand fixed (on wall or table), then step back until desired range HBB: towel roll under axilla and self MWM, can complement w scap mobs!

ELBOW/WRIST TECHNIQUES

*not used much clinically

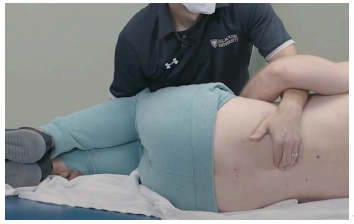
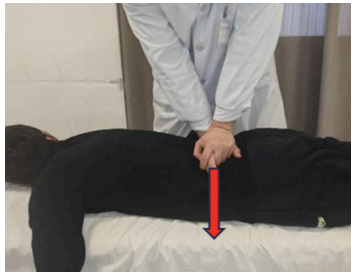
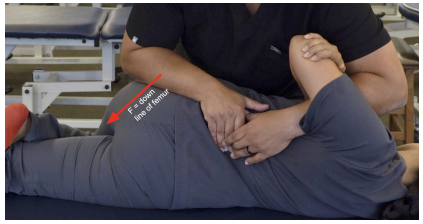
	Technique	Indications	HEP
Elbow Distraction -for elbow flex 	"J scoop" as you go into more flex (2/2 olecranon shape, gap HUJ) -therapist shoulder=fulcrum -1 hand supporting elbow -1 hand applying lat glide Alt posn if restriction near eng-rg: -therapist forehead=fulcrum -hands interlaced applying lat glide	Incr elbow flex ROM (ex: trouble drinking)	Self Mob
Elbow Lateral Gap -technique -MWM 	"Square around for a bunt" -hands at elbow jt line -body=fulcrum -varus F to gap lat elbow (b/w full ext &20flex) MWM: 6-10 reps, 3-5x/d -make sure wall not agst lat epi (uncomfy) →instead slide where its on distal humerus -lat glide, then grip (then release grip before glide) -can alter degree of elbow flex	Lateral epicondylalgia Pain w gripping  ←MWM	MWM →progress toward fxnl activity with gradual loading Isometrics 
Mill's HVLA 	Therapist should be slightly behind pt so their mvt into ext not blocked - Pt in "tip" pose: IR+flex wrist - Find barrier b/w flex+ext, apply thumb pressure at radial head throughout mob/HVLA	Lateral epicondylalgia Pain w gripping	^

Humeroulnar Glide -for elbow ext 	Pt prone, arm rests on therapist thigh - 1 hand stabilizes at dist humerus (ensure some slack, don't want to skin stretch) - Gutter of other hand hooks into elbow, push down to extend (looking for pinky to get longer) Alt posn if super stiff - Therapist on stool, interlock pt's forearm w legs and apply glide while simultaneously extending elbow	Incr elbow ext ROM	Self Mob
Radioulnar Joint Glides -PRUJ -DRUJ -"chopsticks" mobs 	PRUJ P/A: prox radius, mobilize PRUJ A/P: move m belly (medially, laterally, or broad grip) Chopsticks RUJ: pull on one, push on the other Alt posn if sxs more at wrist→ block using table, AP/PA glide  ←"chopsticks"	PRUJ -P/A supination -A/P pronation DRUJ -P/A pronation -A/P supination "Chopsticks" Mobs -post op or scarring	Self Mob
Wrist Mobs -+traction -posterior glide -anterior glide -medial glide -lateral glide	Pt sitting with hand off table - Stabilize radius/ulna - Fapp thru prox row carpals	Post Glide: for wrist flex Ant Glide: for wrist ext Med Glide: radial dev Lat Glide: ulnar dev	Work in new range! Self Mob

Wrist MWM -ext -other options: medial glide, lateral glide 	MWM = pt driven!! Incr window of opportunity!! Apply post glide at wrist jt line, pt then leans forward	Wrist ext -handstands (gymnasts/dancers) -push ups -bench press	Work in new range! Self Mob
Intercarpal Mobs 	Therapist hands hugging pt hand, squeeze a carpal and stir the pot using ur pisiforms	General mobility	Self Mob

LUMBAR SPINE TECHNIQUES

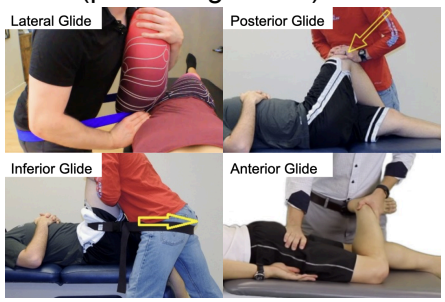
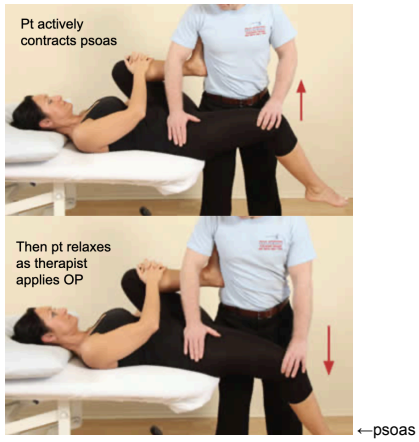
*not used much clinically

	Technique	Indications	HEP
L/s PPIVMs -flex/ext -rotation -SB*  ←flex/ext	(typ done w both legs) Flex: feel gapping Ext: feel approximation/pinch Rot: feel IL side=top SP away, CL side=bump into finger SB: air guitar OR drop below table (typ to kick in multifidi)	Mechanical back (flex/ext) Stenosis (flex) Facet/Disc (ext) TOS (rotn) Unilat back pain (SB)  ←SB	Cat/Cows LTR/open books/rainbows Supine twist stretch  ←rotation
L/s PAIVMs -CPA -UPA 	(typ Gr4) feeling for how stiff CPA: on SP UPA: on TP (thumb away)	Assess segment hypomob	Prone press-up Quadruped trunk rotation
Neutral Gap -flex bias -ext bias 	Neutral: normal Flex bias: PPIVM, pull toward you, gap thru line of femur Ext bias: extend trunk, then pull away while stabilizing at pelvis, wide feet stance, squeeze to close Can work into strengthening (“push back to derotate, relax, repeat”)	Flex bias: stiff Ext bias: flexible, facet closing issue/eng-range p!, alt to UPA bc not as pokey **CPR L Manip (4/5)** 1. Sxs last <16d 2. No sxs dist to knee 3. FABQ <19 4. Hypomob segment 5. Hip IR >35	Repeated motions Open books Thoracic rot DKTC (flex) Incline walk (flex) Prone press-up (ext)

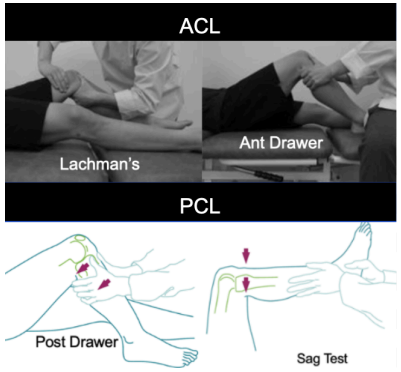
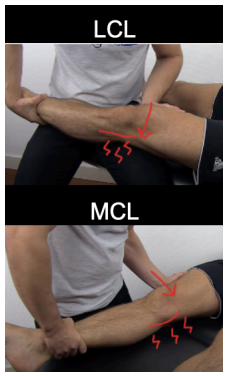
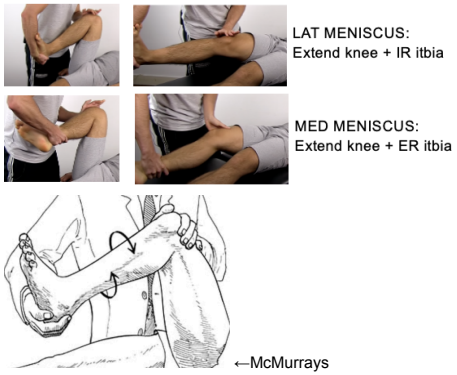
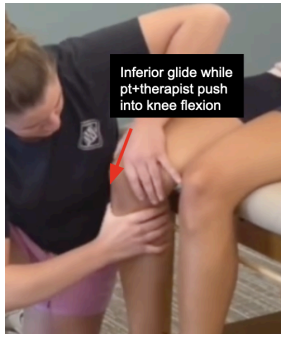
SI Regional / Shotgun*  *stabilizing hand can be behind pt's scapulae	Treating R: move pt to L side of plinth, banana (SB away, rot towards)	If neutral gap don't work End-range pain (electrician, plumber, v-ball, gymnast, etc)	MET (L post: activate L hip flexor + R hamstring)
Long Axis Distraction -back =abd, flex, ER -SIJ =add, ext, IR 	<u>Back bias</u>: hip abd, flex, ER (open pack) <u>SIJ bias</u>: hip add, ext, IR (tensions ligaments/capsule)	Referral p! down hip/leg (L radic, facet) SIJ dysfxn (instab/hypermob, can refer to hip/groin) Hip/ST pathology (OA, FAI, labral tear, hip dysplasia, troch bursitis, GMed/Min tendinopathy) XMalignancy/infection XSevere osteoporosis XAcute hip fx/dislocations	Self-mob using belt/band (ex: on bed/floor with anchored resistance at EOB/table leg) Bar hang or standing off step with weight on affected side (bias back vs SIJ with hip positioning)

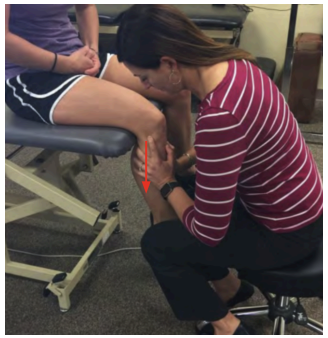
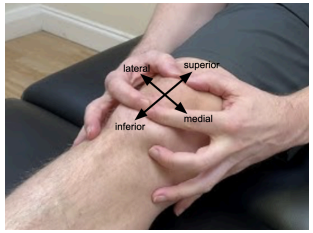
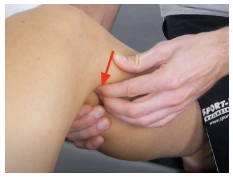
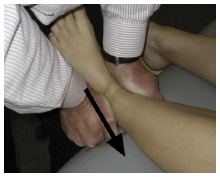
HIP TECHNIQUES

*not used much clinically

	Technique	Indications	HEP
Hip Mobs/MWM -lateral (+IR/ER MWM) -inferior (flex MWM) -post (A-P force) -PA (prone frog +stool) 	MWM = pt driven!! Incr window of opportunity!! Lat: make sure belt is // so line of force is straight out Inf: can go thru range Post: go to painful range, can add hip flex +IR/ER P-A: in s/l OR prone frog+stool for MWM (careful of sciatic n)	Hip OA (try to abd too soon in squat) FAI Poor motor control/deficit Deep "piriformis" type pain, hurts w flex, doesn't change on back exam	Work in new range! Self-mob using band, can go into MWM
MET (or contract relax) -psoas* -quad* -QL/multifidi  ←psoas	Not a vigorous technique!! Psoas: either lift off hand or slightly push into hand, stabilize other foot agst ur body Quad: kick into hand, can add ext and also have them push down to table (work both ends) QL/multif: pelvic elev/dep, meet my pressure (pull up, push down)	To isolate contraction, get them to relax, go into new physiologic ST space/ROM Tightness/M guarding Lack motor control Total knee pts (quad) Flank tightness (QL/multif)  ←quad	Hip flexor stretch Quad stretch Hip hike/abd Sidelying clams Lateral stepping Unilat farmer carry

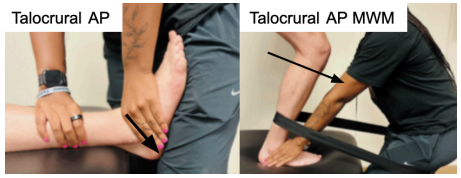
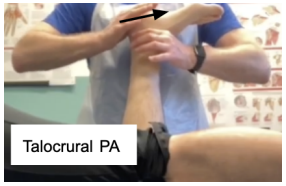
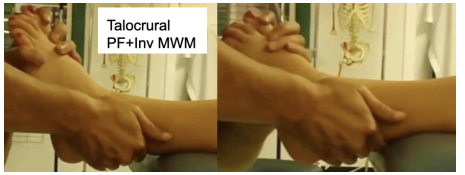
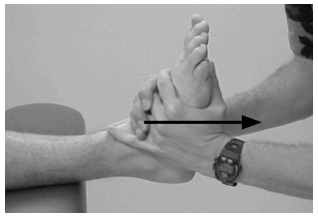
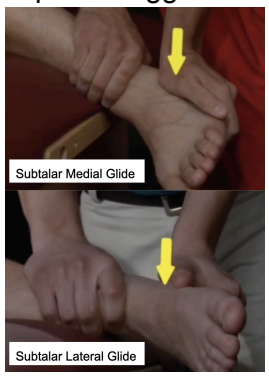
KNEE TECHNIQUES

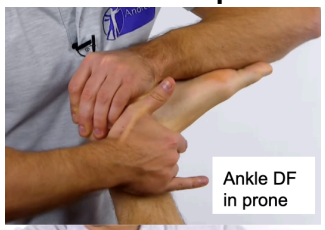
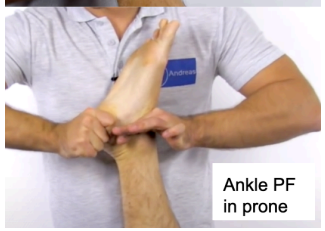
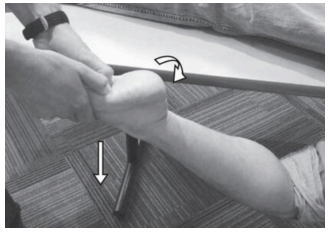
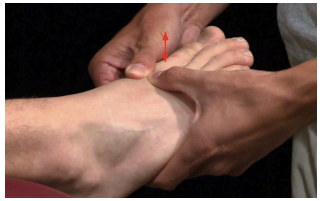
	Technique	Indications	HEP
Knee Lig Testing -ACL -MCL/LCL -PCL -McMurray's (meniscus) [+] pain, app, crepitus 	ACL: pull up (rests on ur thigh) MCL: push in (ur outer hand does the work) LCL: push out (ur inner hand does the work) PCL: hooklying, push back McMurrays: pt's max flex +tibial IR/ER (posteromed/lat corners, meniscus) 	Trauma "Clearing the knee"  ←McMurrays	–
Knee Mobs/MWM -flex = contract hams -ext = contract quads -screwhome ext (last 10°)  ←MWM knee flex	Flex: pt hooklying, sit on foot, can change pain by biasing tibial IR/ER, use hamstring Ext: prone (P-A MWM) or supine (A-P), use quad Screwhome: ER tibia or IR femur  ←MWM knee ext	Incr ROM (post-op)	HS with strap, slider TKE with TCs: band, physioball, or both (long sitting or standing)

Tib-Femoral Distraction (sit, s/l, prone) 	Sit: cross ur legs around theirs (shin over their ankle, hook), can turn into MWM Prone: stab femur S/l: ur back stab hamstring	Decompress area (TKR, OA)	Ankle wt and hang
Patellar Mobs/MWM -knee flex = inf glide -knee ext = sup glide -med/lat in s/l -distraction 	Lumbrical C-grip Inf: push down (+HS contract) Sup: push up (+quad set, alt posn w FR for patellar t. pain) Med: s/l w FR under knee, can control amt knee flex Distraction: pull up n wiggle	Incr ROM (esp last few °) NMR Patellar compression/pain Post-op	Self-mob Quad set TKE
Tib-Fib Mobs -proximal -distal w DF  	Prox: hypothenar eminence on fib head, A-P motion Dist: foot agst ur thigh, MWM into DF	Prox: N/T down leg, TTP, peroneal entrapment Dist: incr DF, if not any better w talocrural mobs	Self-mob

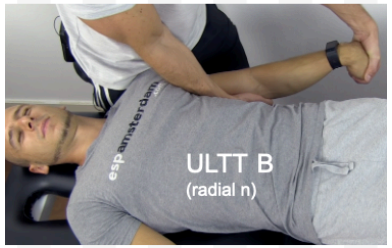
ANKLE TECHNIQUES

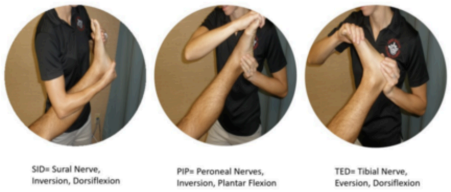
*not used much clinically

	Technique	Indications	HEP
Talocrural Mobs/MWM -AP (for DF) -PA (for PF, prone) -PF+Inv agst ur thigh 	A-P: pistol grip on jt line, foot agst ur thigh for more DF →MWM: lunge, stab talus, other hand on calf to help P-A: prone, bottom hand wide at tib fib, top hand calcaneus (pec squeeze for more PF) →MWM: sit, stab tib fib PF+Inv: distal tib fib PA mob w mvt (can use thigh to help) Start PF, Progress to PF+Inv 8-10reps, sxs improvement	Pt coming out of boot (P-A) Lack ROM/painful Lateral ankle sprain (PF+Inv MWM) Trying to get more pain-free ROM to allow pt to do more!! 	Self-mob Taping Ankle intrinsics (4-way theraband) 
Ankle Distraction -subtalar = DF+Ev -talocrural = PF+Inv 	Broad hand thumb contact on bottom of foot, on top fingers interlace (except pinkies), elbows tuck in and pull Subtalar: DF+Ev Talocrural: PF+Inv	Lateral ankle sprain (subtalar distraction puts ATFL lig on slack) Neurophysiologic impact on mm. shut down (peroneals, soleus)	
Subtalar Med/Lat Glides -prone wiggle or s/l 	Med subtalar glides: helps EV In s/l: support under leg and evert foot, then glide Lat subtalar glides: help INV In s/l: block leg w forearm, can use thigh to impart DF	Inc ROM (Ev/Inv)	

Ankle DF/PF in prone  	DF: forearm on foot grab heel and push down, opp hand around calcaneus and pulls up PF: push leg forward as ur assisting foot up	Incr ROM Post-op	Self-mob/MWM DF: lunging MWM on chair/step, deficit calf raise with handheld weight PF: kneel/half kneel/sitting with toes pointed down →using bodyweight to promote more ROM
Cuboid Whip 	Find styloid 5th met, slip just medial past gutter Sup: push cuboid superolat and cup calcaneus, other hand twists/SUP midfoot, drop down on table to assist cavitation Prone: buddy thumb on cuboid, ensure other hand out of way to not block cuboid, 'J' motion w flick at end	"Stepping on a pebble" Basketball- blow to top of foot Lateral ankle sprain (peroneals pulling on cuboid, can't provide arch optimal stability, now pain)	Support tape Foot extrinsics
1st ray, MTP flex/ext 	1st MTP Ext: distract big toe, stab mid foot Intertarsal mobs: stab other mets as you glide one 1st Ray Plantar/Dorsal glide: both hands inner foot, pushing up/down (can also twist)	Lack push-off/short steps Early post-op in boot 1st ray bunionectomy Morton's neuroma Stress fx Arthritic changes in foot/ankle	Self-mob

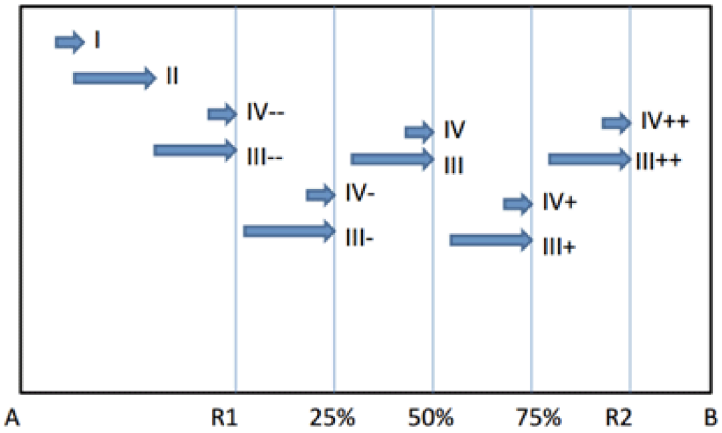
NEURODYNAMIC TESTING

	Technique	Indications	HEP
ULTT -ULTT A (base-median n) -ULTT 2a (median n) -ULTT B (radial n) -ULTT 3 (ulnar n)    	<u>ULTT A</u>: part of cervical radic CPR (base test) - Stabilize shoulder and abduct to 90° - Then ER to 90° - Then supinate forearm with wrist+finger ext →go into elbow ext <u>ULTT 2a</u>: If pt has shoulder pain/limitation - Pt angled diagonally on table - Therapist's inner arm supports elbow in ext+ER - Therapist's outer arm ensure finger+thumb ext →move into shoulder abd+slight ext - Typ (+) at ≤60° <u>ULTT B</u>: - Support shoulder and place elbow into full ext+pron - Then ensure wrist+finger flex (or thumb in fist) →move into shoulder abd ~40° Alt posn - Therapist's outer hand supports elbow, other hand reaches across to perform above steps <u>ULTT 3</u>:	[+] Nerve Dynamics Issue 1. Reproduce familiar sxs 2. Can sensitize >1jt away (neck SB IL=dec, CL=inc p!) 3. Side-Side difference (reassess w each step)	Gliders (acutely) → Tensioners (chronic)

	- Start in 90/90, then move into 90° ER - Pronate forearm, ensure wrist+finger ext - Then take into more elbow flex (bc most common ulnar N entrapment site =cubital tunnel)		
SLR/Slump -TED tibial n.→heel -PIP peroneal n.→dorsum -SID sural n.→lat ankle	 Glider = 'kick head off' Tensioner = look down+ext leg	Adverse nerve dynamics Radiating N/T down leg	Gliders (acutely) → Tensioners (chronic) Return to sport

Maitland Graded Mobilizations

- Gr1/2 = Pain (full hand contact)
- Gr3/4 = ROM (push down, blanching of finger = into resistance)



Optional class demonstrations for each technique are provided below. These videos are informal and intended as a supplemental resource only.

Upper Quarter Techniques: https://youtube.com/playlist?list=PLaJiV_1PIB9COmbUbfFD9YzsE7zz_xPIB&si=E3wPqGnyqVVR1jDs

Lower Quarter Techniques: https://youtube.com/playlist?list=PLaJiV_1PIB9D6XOBY4wfK9VFfEmg2EEIS&si=G-5DjR5dJSMsQoyi

Feedback Form: https://forms.gle/FsK5WycpZKQXD58u8