SOT Final Practical Handout

Distortion Analysis
Patient standing, doctor seated
P-A view, state observing S2 for lateral sway > 1/4" indicative of CAT II
Lateral view, state observing AC for A-P sway > 1/4" indicative of CAT I
Normal is sway less than 1/4", no movement (because of guarding) indicative of CAT III

1st Rib Palpation
Doctor behind standing patient palpating junction of 1st rib and TVP with thumbs
State bilateral mov't/tenderness >1/4" indicative of CAT I
State unilateral mov't/tenderness > 1/4" indicative of CAT II usually on side of lesion
No mov't or tenderness (because of guarding) indicative of CAT III

Cervical Indicators
Patient supine, doctor seated at head of table
State that Doc palpates c-spine for tenderness at spinous processes & TVPs (articular pillars)
Pain @ TVP relates to lumbar spinous rotation to that side
Pain @ side of spinous relates to lumbar TVP inferiority on that side
Evaluator designates tender spot, student describes relationship
Note: C1-L5, C2-L4, C3-L3, C4-L2, C5-L1, C6-T12, C7-T11
L5 TVP inferiority relates to styloid process since C1 has no spinous process

Cervical Compaction/Cervical Stairstep, Analysis and Correction
Patient is supine
Cervical Compaction
Doc at head of table, gently lifts patient head off table, has patient put hands on their stomach
Doc tells patient to lift their legs 18-24" and notes the ease with which they can do this
Doc places palms together on either side of sagittal suture and exerts S-I pressure
Doc tells patient to lift their legs 18-24" and notes the ease with which they can do this
States: If compaction makes it easier, this is a primary cervical problem that must be cleared now
Cervical Stairstep
Doc places palms together (thumbs form a "V") @ sagittal suture and exerts S-I/P-A pressure
Doc insures patient's nose and chin remain parallel to the floor throughout the arc
Correctly identifies the 4 steps
First step=T1-C7, Second step=C6-C5, Third step=C4-C3, Fourth step=C2-C1
State that if first step feels restrictive to check anteriors (T1-T4)
Evaluator picks a level of restriction
Doc executes a figure 8 @ correct step keeping patient's nose and chin in sagittal plane
Doc rechecks for restriction

Basic I
Patient is supine and doc is seated at head of table
Support patients head with palms and fingertips (fingertips lateral of EOP along nuchal line)
Wait for pulses felt at fingertips to equalize (about a minute)

CAT III Basic Three
Patient is supine, not on blocks
Doctor is seated at head of table
Doctor's thumbs on either side of the sagittal suture at the most tender point
Doctor's fingertips on parietal bone (at least an inch above the pinna of the ear)
State that the LOD is to "lift" the parietal bones laterally on inhalation for 3 respiration cycles

Analysis and Correction for a CAT I/III Psoas
Patient supine, not wearing a watch
Doc at head of table, feet parallel, grasps patients arms and tractions, identifies short arm
Doc goes to contralateral side of involved psoas
Inferior hand on knee of involved side psoas, moves knee laterally
Superior hand hypothenar contact on belly of psoas, not on belt
Instruct patient to inhale then applies A-P pressure during exhale while bringing knee medial
Maintains pressure against patient's next inhale, moves knee lateral, and repeats above
Maintains pressure against patient's next inhale, moves knee lateral, and repeats above
Rechecks arms length

Analysis and Correction for a CAT II Psoas
Patient supine, not wearing a watch
Doc at head of table, feet parallel, grasps patients arms proximal to wrist, tractions, id's short arm
Doc goes to contralateral side of involved psoas
Inferior hand supports involved side ilium
Superior hand hypothenar contact on belly of contractured psoas, not on belt
Instructs patient to inhale then applies pressure during exhale
Maintains pressure against patient inhale, then applies pressure again during exhale
Maintains pressure again against patient inhale, then applies pressure again during exhale
Rechecks arms length

Anterior Iliofemoral Ligament
Patient supine, doctor at foot of table
Doctor grasps patient proximal to ankles and internally rotates looking for restriction
Doctor goes to contralateral side of restriction and contacts 1" posterior/1" superior to trochanter
Patient turns toes out as doctor lifts P-A on ligament
Doctor relaxes contact as patient turns toes in
Patient turns toes out as doctor lifts P-A on ligament
Doctor relaxes contact as patient turns toes in
Doc counts to 3 and patient turns toes out fast as doctor lifts P-A on ligament
Rechecks legs for restrictions

Supine Leg Length Analysis
Patient is supine, Doc at foot of table
Doc grasps posterior aspect of patient's legs, proximal to ankles
Doc brings legs to lateral edge of table and exerts pressure L-M while patient resists for 3 secs
Pt relaxes, Doc maintains traction and brings legs together to assess leg length at medial maleolus
Correctly identifies short leg as having the superior maleolus

Arm Fossa Test
Patient supine, not on board
Doc stands on right side of patient even with their hip
Doc insures patient is not wearing a watch
Doc has patient extend their right arm, soft fist facing medially
Doc does a test pull of appropriate force
Doc checks upper fossa with a flat four-finger contact while saying "hold" and pulling patient's arm
Doc checks lower fossa with a flat four-finger contact while saying "hold" and pulling patient's arm
Doc walks around the head of table in a clockwise manner
Doc does a test pull of appropriate force
Doc checks upper fossa with a flat four-finger contact while saying "hold" and pulling patient's arm
Doc checks lower fossa with a flat four-finger contact while saying "hold" and pulling patient's arm
State: If any of the fossa are not grade five (weak), this is a definitive test for CAT II

Block Category II Evaluator designate short leg L / R
State definitive test to block CAT II: Arm Fossa Test
State must have congruency to block: UMS or LLL
Accurately describes what UMS and LLL mean
Patient Supine
Board 4" above iliac crest
Active blocking: patient lifts hip
Block short leg at iliac crest 90 degrees to spine
Block long leg at trochanter 45 degrees superiorly
State the goal: 4 grade five (strong) fossas
State maximum blocking time: 2 minutes

Block Augmentation, CAT II, Basic II
Patient supine on blocks for CAT II
States indicated when grade five (strong) arm fossa goes weak on maximum inhalation or exhalation
Doc at head of table with left hand under occiput, right hand on frontal bone
Doc instructs patient to inhale, put their tongue on the roof of their mouth and dorsiflex their feet
Doc instructs patient to exhale, relax their tongue, and plantarflex their feet
Demonstrate correction if arm fossa goes weak on inhalation
Doc will pull I-S on both the frontal and occiptal bones during exhalation and relax on inhalation
Demonstrate correction if arm fossa goes weak on exhalation
Doc will push S-I on both the frontal and occiptal bones during inhalation and relax on exhalation

CAT II, Post Block Technique, Long Leg/Short Leg
State this is performed after blocking CAT II and patient's legs are uneven
Doc goes to short leg side, superior hand under knee, inferior hand under ankle
Doc flexes knee to chest from lateral to medial then extends the leg, repeats 3x
Doc repeats on long leg side going from medial to lateral 3x

Prone Leg Length Analysis
Patient is prone Doc at foot of the table
Doc grasps anterior aspect of patient's legs, proximal to ankles
Doc brings legs to lateral edge of table and exerts pressure L-M while patient resists for 3 secs
Pt relaxes, Doc maintains traction and brings legs together to assess leg length at medial maleolus
Correctly identifies short leg as having the superior maleolus

Trap Fiber Analysis
Patient is prone
Doc is seated at head of table
Correctly identifies area 1 in the "V"
Correctly identifies area 7 just off the TVP of T1
Correctly identifies area 4 and states the others are equally spaced between
Applies increasing pressure with thumb from area 1 to area 7 looking for tender spots
Isolates the most tender spot (out of a possible 14)
States which spinal areas are associated with the identified trap area
Checks each spinous associated with the tender area
Correctly sets up on the most tender spinous (cervical figure 8, thoracic/lumbar knife edge)

Area	1	2	3	4	5	6	7
Cerv	1	2	3	4	5	6	7
Thor	1/2/10	3/11/12	4/5	6	7	8	9
Lumbar			1	2	3	4	5

Heel Tension
Patient is prone
Doctor is seated at foot of table
Demonstrate both hands at same time and two hands on one ankle
Demonstrate squeezing achilles tendon
States heel tension is restriction or thicker/tender achilles

Atlas Dural Subluxation
Patient is prone
Correctly performs prone leg check
Checks resistance to dorsiflexion of patient's feet and designates side of heel tension
Doc maintains dorsiflexion and has patient turn head to left then to the right
States normal=slight shortening on side of head rotation, absence of reflex=atlas dural subluxation
Evaluator indicates side of atlas dural subluxation and circles L or R
Doc tractions long leg side while patient tractions head of table for 5 seconds
Doc tractions heel tension leg while patient turns head left and right through full ROM 1x
Pt turns head to atlas dural subluxation side, Doc dorsiflexes both feet 10 sec on/10 sec off,3x
Doc rechecks for reflex by having patient turn head left and right while holding dorsiflexion

Blocking CAT I Evaluator designates short leg R / L
Patient prone
Board 4" above iliac crest (pt can help by lifting up so Doc can place the board)
Sternal Roll in place
Passive blocking, patient does not help
Block short leg at trochanter 45 degrees superiorly
Block long leg at ASIS 45 degrees inferiorly
State the goal: balance the body
State maximum blocking time: 10 minutes

Analysis and Correction of Crest Sign
Must state that this is a myogenic sign
Patient is prone not on blocks
Doc evaluates spinal erector muscles at level of L4 and chooses major side (most tone, wider)
Doc describes difference between Davis Stretch Sign (thumbs) and Davis Contractile Sign (fingers)
Doc now blocks pt CAT I
Doc re-evaluates the Crest sign and determines to either build up weak side or adjust
Doc demonstrates building up weak crest sign if necessary (stabilizes sacrum, goads weak side)
State rules for adjusting crest sign
Adjust major side first
Never adjust over a block
Do not pull the block to do the adjustment
1st adjustment major side: Crest roll if block is at trochanter, Ischial tube toggle if block at ASIS
2nd adjustment minor side: Crest roll if block is at trochanter, Ischial tube toggle if block at ASIS

Analysis and Correction of Dollar Sign
Must state that this a neurogenic sign
Patient is prone not on blocks
States Dollar sign is located two human inches lateral and 3 human inches inferior from the PSIS
Doc evaluates dollar sign and chooses major side (most tone, "trampoline")
Doc now blocks pt CAT I
Doc re-evaluates the Dollar sign and determines to either build up weak side or adjust
Doc demonstrates building up weak dollar sign if necessary (monitors major side and goads weak side)
State rules for adjusting dollar sign
Adjust major side first
Never adjust over a block
Do not pull the block to do the adjustment
1st adjustment major side: Gluteal scoop if block is at ASIS, PSIS toggle if block is at trochanter
2nd adjustment minor side: Gluteal scoop if block is at ASIS, PSIS toggle if block is at trochanter
Note: PSIS toggle is clockwise on the right and counter-clockwise on the left

Analysis and Correction of Sacral Base
Patient is prone on blocks for CAT I
Doc places thumb on L5 spinous and has patient cough forcibly
States: thumb towards ceiling=SB+, thumb towards head=SB-, both ways=SBn
Evaluator pick one and circle: SB+ SB- SBn
Choose correct blocking pattern for selected sacral base
SB+: \ / 45 degrees down at ASIS SCP=Sacral Apex during inhalation
SB-: / \ 45 degrees up at trochanter SCP=Sacral Base during exhalation
SBn: - - between ASIS and Trochanter SCP=apex during inhalation, base during exhalation

Vasomotor
Patient is prone on blocks for CAT I
State that this is done after assessing/correcting for Sacral Base
Observe for area changes in thoracic spine (reddening, blanching, texture, temperature, etc.)
Assess these areas for most superior/tender spinous
Relate that spinous to the Trap Fiber Analysis Chart Cervical component and take TVP contact
Exert I-S pressure on Thoracic Spinous and monitor Cervical TVP for moisture
Adjust Thoracic Spinous I-S with knife hand

Glute Fiber Analysis
Patient is prone not on blocks
Doctor states that glute fibers relate to the lumbar spine
Correctly identify PSIS - L5, then evenly around crest L4 - L1
If still tender after CAT III blocking, treat as a trigger point

S.O.T.O.
Patient is prone
State that indicator is sciatica
State that maneuver is both diagnostic and theraputic
Doc is seated at side of involvement, supports patient's leg anteriorly prox to knee and ankle
Doc brings leg lateral (14", until glutes bunch, or patient tolerance)
Doc externally rotates patient's leg (toes out) and holds for 10-15 secs, returns to start
Wait two minutes and repeat
Ask patient is it: Better? Worse? Same?
Correctly identifies outcome: better=piriformis problem, worse=sequestered disc, same=sublux/herniated disc
Repeat every two minutes if piriformis problem

Blocking CAT III

Patient prone
Board 4" above iliac crest
Sternal roll in place
Passive blocking, patient does not help
Block short leg at trochanter 45 degrees inferiorly
Block long leg at ASIS 45 degrees inferiorly
State the goal: Reduction of pain
State maximum blocking time: 30 minutes

CAT III Block Augmentation, Posterior Iliofemoral Ligament

Patient properly blocked CAT III
Doctor grasps patient proximal to ankles and internally rotates looking for restriction
Doctor goes to side of restriction, SCP is 1" superior and 1" posterior to top of trochanter
If contact is on the short leg side, i.e. over the block at the trochanter, remove it
Double thumb toggle towards the opposite obturator foramen
Replace block if you had previously removed it
Recheck internal rotation

CAT III Block Augmentation, Lumbar Vertebral Derotation

Patient properly blocked CAT III
Patient tractions head of table
Doctor flexes patient's knee with inferior hand on involved side toward glute
State lumbar rotation may be linked to cervical indicator
SCP is spinous process on side of rotation, LOD L - M

CAT III Block Augmentation, Lumbar Inferiority Lift

Patient properly blocked CAT III
Patient tractions head of table
Doctor flexes patient's knee with inferior hand on involved side toward glute
State lumbar inferiority may be linked to cervical indicator
SCP is mammilary/TVP on side of inferiority, LOD I-S

CAT III Block Augmentation, Acetabular Goading

Patient properly blocked CAT III
Doctor flexes patient's knee with inferior hand on involved side toward glute
Superior hand palpates acetabular area for nodules
Move lower leg in small circles maintaining pressure on nodule

CAT III Block Augmentation, Orthopedic Blocking

Patient properly blocked CAT III
State that this is used to derotate a vertebra
Pull block on side of spinous rotation

CAT III Block Augmentation, Sciatic Traction

Patient properly blocked CAT III
State indicator is sciatica
Patient tractions head of table
Doctor tractions sciatic leg and holds for 5 -10 secs
Repeat until pain is gone or there is no more improvement

CAT III Post Blocking Technique, Sacral Cup

Patient is prone, not on blocks
Patient raises and tries to keep leg elevated against doctor's resistance
If patient is unable to keep leg up, doctor contacts sacral cup between S1-S2 or S3-S4 and re-checks
The sacral cup contact that allows patient to keep leg up may be adjusted with double thumb toggle

CAT III Post Blocking Technique, Sitting Disc Technique

Patient is seated on board
Doctor contacts inferior tip of involved spinous and has patient put chin on chest
Doctor pushes I - S as patient bends forward and inhales keeping chin on chest
Doctor pushes P - A as patient sits up and exhales keeping chin on chest
Doctor pushes I - S as patient bends forward and inhales keeping chin on chest
May repeat all three steps to help reduce pain

CAT III Post Blocking Technique, Side Posture

State that this is for sciatica
Place patient on side with sciatic leg down
For a rotated vertebra the spinous must be down
For a tipped vertebra, the inferior TVP must be up
Contact mammilary, fingers pointing up the spine
LOD is P - A for rotation or I - S for inferiority