Spinal Cord Injury and Exercise
The Importance Of Exercise

- Prevents secondary conditions:
  - Heart disease
  - Diabetes
  - Pressure sores
  - Lung problems
  - Hypertension
  - Osteoporosis
  - Decreasing lean body mass
  - Atrophy
  - Urinary tract infections
  - Joint contractures
  - Pain

- As people with spinal cord injury (SCI) age, they are at a greater risk for the above diseases than the general population.
The Importance of Exercise

- Prevents deconditioning (decreased aerobic capacity)
- Prevents obesity (especially as you age)
- Provides strength and energy to perform functional mobility and activities of daily living with increased independence
- Provides psychological and recreational benefits to enjoy life
- Increases blood flow to the lower extremities
- Helps to prevent osteoporosis, especially in postmenopausal women
- Helps prevent edema
Primary Causes of Death

- In people with SCI:
  - Respiratory Disease
  - Urinary System Disease
  - Heart Disease

- In the general population:
  - Heart Disease
  - Cancer
  - Stroke

- People with Spinal Cord Injury are living longer lives
- Exercise increases the quality of that life
Know the Heart Risk Factors

- Several risk factors for Coronary Artery Disease (CAD) occur more frequently in individuals with SCI:
  - Lipid disorders
  - Diabetes
  - Obesity
  - Lack of physical activity
  - Changes in body composition resulting in a higher percentage of body fat
  - Smoking
  - Heredity
  - Occasionally high blood pressure
- CAD may be harder to diagnose in the SCI population due to lack of sensory systems
Types of Exercise
Aerobic Exercise, Strength Training, and Flexibility
Aerobic Exercise

- **Aerobic Exercise**: Exercising for 20-60 minutes or multiple durations of 10 minutes of activity
  - **Lesion above T6**: patient should not exceed maximum heart rate above 130 beats per minute and should exercise in the range of 65-95 beats per minute
  - **Lesion below T6**: patient can exercise according to the guidelines of a non SCI individual with training intensity being not greater than 70%
Guidelines

- Two easier guidelines are:
  1. The **talk test**: if you cannot carry on a conversation while exercising you are at too high an intensity
  2. **Rate of Perceived Exertion Scale** (RPE Scale)
     - 0: nothing at all
     - 0.5: extremely weak
     - 1: very weak
     - 2: weak (light)
     - 3: moderate
     - 4: somewhat strong
     - 5-6: strong (heavy)
     - 7-9: very strong
     - 10: extremely strong (almost maximal)
Strength Training

- 3-5 days a week
- Rest 30-60 seconds between sets and the last rep
- This should be difficult, if not, increase the weight
- Do not exercise the same muscle group two days in a row
- Use straps or a partner if needed for balance
- Watch skin
- Vary exercises to reduce overuse injuries
- Use free weights, weight machines, medicine balls, and a theraband
Types of Strength Training

**Strengthening**
- Do 3 sets of 5 reps
- Use heavier weight
- This increases muscle strength and size

**Endurance**
- Do 12-15 reps
- Use lighter weight
- This builds muscle endurance
Flexibility

- Self Range of Motion or Passive Range of Motion
  - Stretches should be performed three times and held for thirty seconds – no bouncing
  - Joint movements should be done 5-10 times in a supported fluid, manner – not jerky
Important Things to Remember When Exercising

- **Incontinence**: Be sure to empty your bowel and bladder before exercise
- **Spasticity**: Stretch and bear weight through limbs that have spasms and avoid exercises that increase your spasms and tone
- **Autonomic Dysreflexia**: Symptoms = a lot of sweating, headache, shivering, flushing (especially reddening of the face) and nausea. Seek medical attention immediately and stay upright.
Also Important to Remember

- **Orthostatic hypotension** is a drop in blood pressure
  - Symptoms= nausea, dizziness, lightheadedness
  - Occurs when moving from laying down to sitting up
  - Maintain fluid intake, may need to use an abdominal binder and/or compression stockings
  - If it happens lie down and elevate legs
Remember While Exercising:

- **Thermoregulation** is poor temperature control of the body
- Prevention Tips:
  - Wear layered clothing
  - Maintain fluid intake
  - Keep cool clothes or spray bottle handy to assist with cooling
Don’t Forget!

- **Always Remember** to perform pressure reliefs while exercising!
- Protect your tenodesis
- Check with your doctor if there is unusual swelling in an arm or leg, this may be a deep vein thrombosis
  - Do not exercise and please have this evaluated by your physician
- Exercise may not be indicated if you have a cold or the flu
Types of Exercise Equipment

- Yellow Cuflinc

- The Yellow Cuflinc is our most popular model. Its 4 yellow elastic bands provide resistance from 4 to 16 lbs. On-line instructional videos. $24.95 each
Types of Exercise Equipment

- Uppertone
Handcycle for Mountain Biking
Exercise Program for SCI Patients

These exercises are to be done daily to prevent joints contractures and muscle shortening which can increase pain, decrease positioning ability and decrease the ability to perform daily activities. These are also done to help prevent blood clots and may decrease spasms.
PROM ankle circum w/ person

- Place ankle so it is off the edge of a surface and free to move.
- Hold heel with one hand, ball of foot with other.
- Gently move foot in circles, clockwise and counterclockwise, through available range, as shown.
- **Special Instructions**
  - Grasp firmly, yet gently. Move the ankle within the available range of motion
- **Perform 1 set of 10 repetitions, once a day**
- Use Person. Perform 1 repetition every 4 seconds.
PROM ankle DF/PF supine person

- Place person on bed with ankle off the edge
- Place one hand on heel and other hand on ball of foot
- Gently move foot down and up through available range
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 seconds.
PROM hip abd supine w/person

- Lie face up, legs straight
- Partner supports involved leg under ankle and knee as shown.
- Partner moves leg out to side through available range, and returns leg to starting position.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM hip add supine w/person

- Lie face up, legs straight, uninvolved leg out to side
- Partner supports involved leg under ankle and knee as shown
- Partner moves leg toward other leg through available range
- And returns to starting position.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM hip flx supine w/person

- Lie face up, uninvolved leg bent
- Partner lifts involved leg up to level of thigh,
- And returns to starting position
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM hip IR/ER w/flexed leg w/ person

- Grasp leg under calf and under thigh with other hand.
- Lift leg up, bending knee and hip to about 90 degrees.
- Hold leg in this position and move lower leg side to side, as shown.
- Repeat with other leg

**Special Instructions:**
- For variation, you may rotate thigh in circular motion
- **Perform 1 set of 10 Repetitions, once a day.**

- Use Person. Perform 1 repetition every 4 Seconds.
PROM hip IR/ER w/straight leg w/person

- Place one hand slightly below knee.
- Place other hand at mid thigh.
- Gently roll leg back and forth.
- Repeat with other leg.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use person. Perform 1 repetition every 4 Seconds.
PROM hip/knee flx supine w/person

- Place person on back.
- Grasp leg under calf and under thigh with other hand.
- Lift leg up, bending knee and hip to chest or as far as possible.
- Repeat with other leg.
- Perform 1 set of 10 Repetitions, once a day.
- Use Person. Perform 1 Repetition every 4 Seconds.
Stretch hamstring supine w/person

- Place subject on back.
- Stabilize right leg.
- Hold left leg behind heel and in front of knee.
- Slowly lift leg up and stretch muscles on back of leg.
- Repeat stretches with right leg.
- **Special Instructions:**
  - When stretching past 90 degrees it may help to rest heel on your shoulder.
  - **Perform 1 set of 10 Repetitions, once a day.**
  - Use Person. Hold exercise for 20 Seconds.
**Stretch hip/knee figure 4 modified**

- Lie on back with legs straight.
- Bring left ankle over right knee and let left knee drop to floor.
- Repeat with other side.
- **Perform 1 set of 10 Repetitions, once a day.**
- Hold exercise for 20 Seconds.
Stretch lumbar rotn supine w/person

- Have person on back with knees bent.
- Place hands on knees and rotate legs to right as far as possible.
- Hold stretch and rotate legs to left.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Hold exercise for 20 Seconds.
Stretch Piriformis supine w/person

- Subject is on back.
- Grasp right leg at outside of knee and front of ankle and lift up to chest.
- Gently push knee across chest to opposite shoulder.
- **Special Instructions:**
  - More stretch can be obtained by rotating leg inward.
  - **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Hold exercise for 20 seconds.
PROM ankle circum self

- Sit with leg crossed.
- Hold heel with one hand, ball of foot with other.
- Gently move foot in circles, clockwise and counterclockwise, through available range, as shown.
- Perform 1 set of 10 Repetitions, once a day.
- Perform 1 repetition every 4 Seconds.
PROM ankle inv/ever self

- Sit with leg crossed.
- Hold heel with one hand, ball of foot with other.
- Gently move foot back and forth, through available range as shown.
- **Special Instructions:**
  - Can do these exercises in a wheelchair or sitting against a wall.
  - Also stretch toes back and forth after the above exercise
- Perform 1 set of 10 Repetitions, once a day.
- Perform 1 repetition every 4 Seconds.
Stretch Gastroc sit w/towel

- Sit as shown, looping towel around ball of foot.
- Gently and steadily pull on towel, keeping knee straight.
- Perform 1 set of 5 Repetitions, once a day.
- Use Towel.
- Hold exercise for 30 Seconds.
Stretch great toe flexor w/elastic

- Sit with affected leg out in front, knee straight.
- Loop elastic around big toe.
- Slowly pull the toe back and hold.
- Relax and repeat.
- Perform 1 set of 4 Repetitions, once a day.
- Use Elastic.
- Hold exercise for 20 Seconds.
Stretch groin sit

- Sit with knees bent, soles of feet together.
- Slowly let your knees drop to floor.
- Grasp ankles with hands and lean forward from the hips.
- **Special Instructions:**
  - Try to keep elbows on inside of knees.
  - Perform 1 set of 5 Repetitions, once a day.
- Hold exercise for 30 Seconds.
Stretch hamstrings supine w/towel

- Lie on back holding a towel looped under foot with knee straight, as shown.
- Gently pull leg up.
- Repeat with other leg.
- **Special Instructions:**
  - Maintain a straight knee.
  - Perform 1 set of 5 Repetitions, once a day
- Use Towel. Hold exercise for 30 Seconds.
Stretch hip/knee figure 4 modified

- Lie on back with legs straight.
- Bring left ankle over right knee and let left knee drop to floor.
- Repeat with other side.
- Perform 1 set of 5 Repetitions, once a day.
- Hold exercise for 30 Seconds.
Stretch Piriformis long sit

- Sit with right knee bent, right ankle to outside of left leg.
- Grasp knee and pull thigh across chest toward left shoulder.
- Relax and repeat with left leg.
- Perform 1 set of 5 Repetitions, once a day.
- Hold exercise for 30 Seconds.
PROM wrist radial/ulnar dev w/person

- The person performing the passive range of motion should gently grasp the arm just above the wrist.
- With the other hand, grasp the hand.
- Move the wrist side to side as shown.
- Grasp firmly, yet gently and move only through the available range.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM wrist flx/ext w/person

- The person performing the passive range of motion should gently grasp the arm just above the wrist.
- With the other hand, grasp the hand.
- Move the wrist up and down as shown.
- Grasp firmly, yet gently and move only through the available range.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM wrist circum w/person

- The person performing the passive range of motion should gently grasp the arm just above the wrist.
- With the other hand, grasp the hand.
- Move the wrist in circles, both clockwise and counter-clockwise.
- Grasp firmly, yet gently and move only through the available range.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM shld IR/ER w/person

- Lie on back, arm at 45 degrees, elbow bent to 90.
- Partner grasps wrist of involved arm, supporting elbow with other hand.
- Partner gently rotates arm through available range, as shown.
- **Special Instructions:**
  - Do not force past available range
  - Use firm, yet soft grip, cradling the arm.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM shld horiz add w/person

- Lie on back, arm straight out from side as sown, elbow straight.
- Partner grasps wrist of involved arm, supporting elbow with other hand.
- Partner gently moves arm up and across body through available range.
- Return to start position.
- **Special Instructions:**
  - Do not force past available range.
  - Use firm, yet soft grip, cradling the arm.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM shld flx w/ person

- Lie on back, arm at side.
- Partner grasps wrist with one hand, and supports elbow with other hand.
- Partner gently moves arm upward and downward as shown, through available range.
- **Special Instructions:**
  - Do not force past available range.
  - Use firm, yet soft grip, cradling the arm.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM shld add w/person

- Lie on back, arms at side, elbow straight.
- Partner grasps wrist of involved arm, supporting elbow with other hand.
- Partner gently moves arm across body through available range and returns to side, as shown.
- **Special Instructions:**
  - Do not force past available range.
  - Use firm, yet soft grip, cradling the arm.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM shld abd w/person

- Lie on back, arm at side, elbow straight.
- Partner grasps wrist of involved arm, supporting elbow with other hand.
- Partner gently moves arm away from body through available range and returns to side, as shown.
- **Special Instructions:**
  - Do not force past available range.
  - Use firm, yet soft grip, cradling the arm.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds.
PROM elbow flx/ext w/person

- Begin with arm straight.
- Partner places one hand above elbow, other hand at wrist or hand.
- Partner moves elbow through available range, and returns to start position.

**Special Instructions:**
- Use a firm, yet soft grip, cradling arm.
- Do not squeeze over bony areas.

- Perform 1 set of 10 Repetitions, once a day.
- Use Person. Perform 1 repetition every 4 Seconds
PROM elbow sup/pron w/self

- Grasp your involved arm at wrist or hand.
- Rotate wrist and forearm through available range, and return to start position.
- **Special Instructions:**
  - Use a firm, yet soft grip, cradling arm.
  - Do not squeeze over bony areas.
- **Perform 1 set of 10 Repetitions, once a day.**
- Use Person. Perform 1 repetition every 4 Seconds
PROM finger MCP flx/ext

- Grasp knuckle of finger joint with other hand.
- Bend and straighten joint as shown.
- Repeat with all fingers
- Perform 1 set of 10 Repetitions, once a day.
- Perform 1 repetition every 4 Seconds.
PROM finger PIP flx/ext

- Grasp middle finger joint with other hand.
- Bend and straighten joint as shown.
- Repeat with all fingers.
- Perform 1 set of 10 Repetitions, once a day.
- Perform 1 repetition every 4 Seconds.
PROM thumb circum

- Grasp thumb with thumb and forefinger of other hand.
- Move thumb in circles.
- Perform 1 set of 10 Repetitions, once a day.
- Perform 1 repetition every 4 Seconds.
Resist shld ER in WC w/Elastic

- Attach elastic to arm of chair on right.
- Grasp elastic in left hand, keeping elbow bent.
- Pull outward.
- Return and repeat.
- Repeat attaching elastic to left side and using right arm.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld IR in WC w/ Elastic

- Attach elastic to secure object at right side.
- Grasp elastic in right hand with elbow bent to 90 degrees.
- Pull inward.
- Return and repeat.
- Perform series with elastic attached to left side and using left hand.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist elbow ext in WC w/Elastic

- Attach elastic to front of right arm rest.
- Grasp elastic in right hand keeping elbow bent to 90 degrees.
- Straighten elbow.
- Return and repeat.
- Repeat series with elastic attached to left side and using left arm.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist elbow flx in WC w/Elastic

- Attach elastic to bottom of chair in front.
- Grasp elastic in right hand with elbow bent to 90 degrees.
- Pull upward.
- Return and repeat.
- Perform series with using left hand.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld ext bil stand w/elastic

- Secure elastic at waist level as shown.
- Face toward elastic.
- Grasp elastic in hands, and pull backwards, keeping elbows straight.
- Return to start position.
- **Special Instructions:**
  - Maintain neutral spine in low back.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld flx uni w/elastic (horiz emphasis)

- Secure elastic at waist level.
- Begin with arm slightly behind hip, elbow straight.
- Grasp elastic.
- Pull band forward, keeping elbow straight.
- Return slowly to starting position.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld horiz add bil bent arms w/elastic

- Begin with band wrapped around upper back, holding each end in hands.
- Abduct shoulders to 60 degrees and bend elbows to 45 degrees.
- Keep shoulders elevated and push arms forwards and inward in a hugging motion.
- When hands touch, hold, slowly return to start position and repeat.
- **Special Instructions**
  - Avoid shrugging shoulders.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld Lat pulls on Ball w/elastic

- Attach elastic overhead to secure object.
- Sit on Ball.
- Grasp elastic in hands as shown.
- Pull down.
- Repeat.

**Special Instructions:**
- Maintain proper low back posture.
- Perform 5 Sets of 1 Minute, once a day.
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld presses bil w/elastic

- Attach elastic to secure object at shoulder level.
- Sit or stand as shown.
- Hold elastic in hands, arms out from side, elbows bent, as shown.
- Push forward, straightening elbows.
- Slowly return to start position and repeat.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld protract bil bent elbow w/elastic

- Position elastic around mid back and to outside of forearms, holding in hands, as shown.
- Keep elbows slight bent and push forward.
- Return to start position and repeat.

**Special Instructions:**
- Movement should come from the shoulder blades moving forward.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld retract bil sit on Ball w/elastic

- Position arms out from sides, elbows bent to 90 degrees, as shown.
- Sit on ball with proper low back posture.
- Grasp elastic in hands.
- Pull back, bringing shoulder blades together.
- Return to starting position.

**Special Instructions:**
- Maintain proper posture
- **Perform 5 sets of 1 Minute, once a day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld retract sit arms down w/elastic

- Attach elastic to secure object
- Grasp elastic in hands.
- Sit in chair with back unsupported, maintaining proper posture.
- Keep elbows near sides, elbows bent.
- Squeeze shoulder blades together, pulling arms back.
- Slowly return to start and repeat.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld scaption w/elastic

- Stand on elastic.
- Begin with arm at side, elbow straight, holding elastic, thumb up.
- Raise arm in a position halfway between the front and side, over head.
- Slowly return to starting position.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld retract bil stand w/elastic

- Position arms out from sides, elbows bent to 90 degrees, as shown.
- Grasp elastic in hands.
- Pull back, bringing shoulder blades together.
- Return to starting position.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist wrist ext w/elastic

- Secure elastic under foot.
- Grasp elastic with hand.
- Place forearm on table with hand off edge of table, palm down as shown.
- Move wrist upward.
- Slowly return to starting position.
- **Perform 3 Sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist wrist flx w/elastic

- Secure elastic under foot.
- Grasp elastic in hand.
- Place forearm on table with hand off edge of table, palm up, as shown.
- Move wrist upward.
- Slowly return to starting position.
- Perform 3 Sets of 10 Repetitions, once every other day.
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld Lat pulldown close grip in WC w/pulley

- Position wheelchair under Lat bar system.
- Grasp bar in both hands with hands about one foot apart and palms facing inward.
- Pull bar down to chest.
- Return to start position and repeat.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld Lat pulldown wide grip in WC w/pulley

- Position wheelchair under Lat bar system.
- Grasp bar in both hands with hands slightly wider than shoulder distance apart and palms facing forward.
- Pull bar down to chest.
- Return to start position and repeat.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist elbow fix in WC w/ wt

- Hold weight in right hand with elbow bent to 90 degrees.
- Lift upward.
- Return and repeat.
- Perform series with using left hand.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld abd in WC w/ wt

- Hold weight in right hand, keeping elbow straight, starting at side.
- Raise arm out to side and overhead, keeping arm straight.
- Return and repeat.
- Repeat series using left arm.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld flx in WC w/ wt

- Hold weight in right hand, keeping elbow straight, starting at side.
- Raise arm to up in front, keeping arm straight.
- Return and repeat.
- Repeat series using left arm.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld depress bil (seated push up) w/elastic

- Sit on chair.
- Place elastic over shoulders as shown.
- Place ends of elastic under hands on seat of chair.
- Push down and lift body upward.
- Lower and repeat.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld horiz abd uni prone thumb up w/wt

- Hold weight in hand, thumb up.
- Lie on stomach with arm extended overhead at 45 degrees as shown.
- Lift arm upward slightly above head.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld retract uni prone w/wt

- Lie face down on bed or couch.
- Position arm at 90 degrees as shown, elbow bent, weight in hand.
- Raise arm, bringing shoulder blade toward middle of back.
- Return to start position.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld horiz add bil supine w/wt

- Lie on back, arms out to sides, elbows straight.
- Hold weights in hands.
- Lift arms up to middle, keeping elbows straight.
- Return to start position and repeat.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld ext uni prone w/ wt

- Lie face down, arm at side, elbow straight.
- Raise arm up, past back.
- Lower and repeat.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld flx uni prone w/ wt

- Lie face down, arm at side, thumb pointing forward.
- Hold weight in hand.
- Slowly raise arm up to head level, keeping elbow straight.
- Return to start and repeat.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld upright rows bil w/elastic

- Stand on elastic.
- Grasp elastic in both hands in front of hips, elbows straight.
- Lift upward toward chin, bending elbows.
- Keep hands close to chest.
- Slowly lower and repeat.
- **Perform 3 sets of 10 Repetitions, once every other day.**
- Use Elastic. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.
Resist shld upright rows bil w/wt

- Stand with weight in hands in front of hips, elbows straight.
- Lift weight toward chin, bending elbows.
- Keep hands close to chest.
- Lower and repeat.
- Perform 3 sets of 10 Repetitions, once every other day.
- Use 0 Lbs. Rest 1 Minute between sets. Perform 1 repetition every 4 Seconds.