Strengthening: Resistance Training Part 2 (FaME) – FAME Sit to Stand Strength (levels 1, 2, 3, 4 with alternative)

Purpose
Tell the person this exercise will strengthen the thigh muscles (quadriceps and gluteus maximus and minimus). To help with everyday activities such as walking and stair-climbing and getting in and out of chairs, cars and buses.

Teaching Instructions
• Let the person know the number of repetitions and sets they will be doing

To stand up
• Sit tall on the front third of the chair, legs and feet hip width apart, knees above ankles
• Take the feet slightly further back so that the knees are above the toes with the heels on the floor
• Place the hands on the chair seat
• Keeping the back long, lean forwards slightly from the hips
• Press down through the thighs and feet to come up to standing
• Walk through the feet on the spot

To sit down
• Move backwards until the backs of knees make contact with the chair (safety check)
• Bend the knees and hips and take the bottom backwards to lower into the chair with control
• Walk/’shuffle’ the hips forwards towards the front third of chair, get into the start position and repeat

BEGIN WITH 1 SET OF 5 REPETITIONS AND BUILD TO 10 REPETITIONS

Teaching Points
• Keep the knees hip width apart throughout
• Keep the back and neck long, ensure the spine is neutral and the tummy muscles are pulled in
• Keep the chest lifted
• Think of driving the body weight upwards and forwards when standing
• Lower the last inch with extra control
• Feel the muscle work in the thighs and buttocks

Potential Problems
• The person is unable to get out of chair due to lack of strength, balance or confidence
• The person leans too far forwards when standing or lowering so that the chest is too close to the thighs and places undue stress on the lower back
• The person reaches for the chair with one arm whilst lowering causing asymmetry, and undue stress on the spine, knee and hip joints
• The person experiences pain in the knee
• The person feels dizzy during or after the stand

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**Solutions**
- Place a firm cushion on the chair seat to reduce the amount of muscle work needed
- Emphasise a slight lean forwards from the hips maintaining a gap between the thigh and chest
- Emphasise the shoulders facing front and the weight evenly over both feet, then reinforce making contact between the back of both knees and the chair before lowering as symmetrically as possible
- Use a firm cushion as above. If pain persists discontinue and encourage the knee brace exercise (Page 72)
- Do a few marching actions in the chair prior to standing, and move the legs and feet gently after standing

**Progression**
- Hands on seat of chair
- Hands on thighs
- Both arms near hips
- Arms crossed at chest height
- On lowering, hold and ‘hover’ 1 inch above the chair seat for up to 5 seconds then lower with control
- On lowering, hold and ‘hover’ 1 inch above the chair seat for up to 5 seconds then come up 2 inches and ‘hover’ again then lower with control
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

**Seated alternative**
Perform the Front and Back of Knee Band Strengthen (Page 80).
**Purpose**
Tell the person this exercise will strengthen the muscles at the front and back of the thighs (quadriceps, hamstrings) and buttocks (gluteus maximus and minimus) and to strengthen the hip bones. To help with everyday activities such as stair-climbing and getting up and down from the floor.

**Teaching Instructions**
- Let the person know the number of repetitions and sets they will be doing
- Stand tall with correct posture, side on to a wall or chair for support
- Place your legs and feet hip width apart, toes pointing forwards
- One arm slightly bent with the palm resting on the support, the other hand on or at the side of the hip
- Take a comfortable stride forward with the outside leg ensuring the back heel comes off the floor
- Keep the weight evenly distributed over both legs, bend both knees a few inches, pause briefly with control
- Push straight up through the feet and thighs, returning to the upright position
- Rest in place for 2-3 seconds between repetitions
- When the required number of repetitions is complete, walk on the spot to refresh the muscles. Turn around and repeat on the other leg

**Teaching Points**
- Keep back long and chest lifted throughout
- Ensure the spine is neutral and the tummy muscles are pulled in
- Ensure the back knee does not bend beyond a 90° angle
- Keep the front knee as directly above the toe as possible throughout
- Feel the muscle work in the thighs and buttocks
- Keep the breathing steady and the movement controlled

**Potential Problems**
- The person lowers the body too far
- The person leans forward from the hips
- The person performs the exercise with the front knee beyond the toe due to lack of strength and/or flexibility placing undue stress on the knee
- The person experiences knee pain

BEGIN WITH 1 SET OF 5 REPETITIONS AND BUILD TO 10 REPETITIONS
**Progression**

- Begin with 1 set of 5 repetitions
- Build to 10 repetitions
- Build to 2 sets of 10 repetitions
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

**Solutions**

- Emphasise that the back knee should be well above the level of the back heel
- Emphasise standing tall, keeping weight even on both feet
- Ensure the stride position is adequately wide and make the bend less deep
- Stop the exercise; if the technique is correct, discontinue and encourage the sit to stand (Page 94) or knee brace exercise (Page 72)

**Seated alternative**

Perform the Front and Back of Knee Band Strengthening exercise (Page 80).
Strengthening: Resistance Training Part 2 (FaME) – Wall Press Up (phase 1 of this exercise is alternative for Wrist Bone Load Page 112)

Purpose
Tell the person this exercise will strengthen the muscles at the back of the arm (triceps) and chest (pectoralis major) and the bones in the shoulder and wrist joints. To help with everyday activities such as pushing up from chairs or out of the bath.

Teaching Instructions
• Let the person know the number of repetitions and sets they will be doing
• Stand tall with correct posture facing a wall.
• Place palms on the wall with fingertips in line with the shoulders
• Walk feet backwards several inches keeping heels on floor
• Adjust feet so they are hip width apart and facing forwards, arms straight, elbows and knees soft
• Stand tall again and pull the tummy muscles in strongly
• Bend the elbows, lowering your body towards the wall
• Press firmly against the wall to return to the start position
• Let the person know that they should count quietly out loud “1,2,3” as they lower and “1,2,3” as they press back to ensure regular breathing

BEGIN WITH 1 SET of 5 REPETITIONS AND BUILD TO 10 REPETITIONS

Teaching Points
• Take the top of the forehead, not the nose, towards the wall
• Avoid locking the elbows on returning to the start position
• Feel the muscle work in the back of the upper arms and across the chest.
• Ensure the spine is neutral and the tummy muscles are pulled in to prevent the lower back from arching
• Keep the chin down and the back long
• Keep the breathing even and regular

Potential Problems
• The person attempts to touch their elbows to the wall
• The person’s heels come off floor
• The person locks their knees
• The person arches their lower back or neck
• The person experiences pain or discomfort in the shoulder joint
• The person experiences discomfort in the wrists
**Solutions**
- Emphasise not bending the elbows too far to avoid undue stress on the elbow joints
- Walk the feet forwards a few inches so that heels remain on the floor as the body moves towards the wall
- Keep the knees ‘soft’ throughout
- Advise checking the tummy muscles are pulled in before lowering the body towards the wall
- Narrow the hands a little and make the lowering action smaller
- Perform the Backward Press (Page 86) instead

**Progression**
- Begin with 1 set of 5 repetitions
- Build to 10 repetitions
- Add a ‘spring and push’ movement; as the person presses away from the wall add a push away with the hands and arms so the hands come off the wall a couple of inches then ‘drop’ back onto the wall, with a smooth, controlled transfer from fingers through to palms as before
- Build to 2 sets of 10 repetitions
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

**Seated alternative**
Perform the Chest Strengthener (Page 88).
Floorwork (FaME) – Therapy led Backward Chaining Guidelines for Getting Down to & Up from the Floor

Getting down to the floor
- Ensure the participants’ mats are in place before starting
- Each session demonstrate and give technique tips for the backward chaining step-by-step approach to getting down to and up from the floor even if the group are familiar with the activity

1. Use the Sit to Stand guidelines (Page 94) and technique tips to come up to standing
2. Take a step or two forwards then turn steadily around to face the chair
3. The feet should be hip width apart for stability
4. Take a stride forwards with the strongest leg (“stride on 1”)
5. Take the upper body forwards and grasp the chair firmly with both hands (“hands on the chair on 2”)
6. Safety check; make sure the back knee is bent and the back heel is lifted
7. Transfer the body weight forward so the arms are supporting more of the weight (“weight over arms on 3”)
8. Take a moment to make sure the legs are in a comfortable position; readjust them as needed, then lower the back leg carefully down onto the knee (“lower onto knee on 4”)
9. Unhook the toes of the back leg for comfort
10. Take the other knee to the floor with control and unhook the toes
11. Now walk the knees back so there is space to place the hands down onto the floor
12. From this all fours position, lower the hips gently to the preferred side and rest for a second or two in side sit position with a long back and the hands on the floor close to the body
Getting up from the floor

- Demonstrate and give technique tips for the backward chaining approach to getting up from the floor as a reminder/recap even if the group are familiar with the technique

1. Once back on all fours, crawl towards the chair
2. Take a firm grip of the chair seat with both hands
3. Place the foot of the strongest leg as flat as possible on the floor
4. In one dynamic movement use the arms and legs to push up onto both feet finishing in a shallow squat position with the weight evenly distributed over both feet
5. Keep the knees bent while transferring the hands from the chair onto the thighs then use the legs to push fully up to standing
6. Stand tall and maintain an upright posture while turning around steadily
7. Walk slowly backwards until the chair can be felt at the back of the legs then bend at the knees and hips and lower into the chair with control

If the person is still experiencing knee problems, utilise the knee brace exercise on page 72 in chair, or floor sitting as appropriate and ensure they also do this exercise as part of their home programme

Potential problems
- The person keeps the back leg straight as they lunge forward
- The person puts too much weight on the chair and the chair tips backwards or forwards
- The person gets down to the floor and cannot get back up
- The person experiences knee pain in the kneeling position

Solutions
- Emphasise the importance of bending both legs for stability and safety
- Ensure the weight is distributed evenly between the legs and as little weight as possible through the arms. Also ensure the hands are placed at the side of the chair seat
- Ideally, ensure this never happens. Talk them through, calmly and confidently instructing every move
- Ensure the person slowly and gently transfers the weight between the knees and transfers to side sitting with control

Seated alternative
Encourage the person to perform as many of the standing movement stages as possible, coming to standing as and when appropriate and beginning again. Do this until sufficient strength and confidence is built up to progress to the next stage. Alternatively, sit tall at the front of the chair and perform the sit to stand exercise (Page 94 or hip walks Page 4).
Floorwork (FaME) – Transitions:
Sit to Side Lying; Side Lying to Prone Lying; Side Lying to Supine Lying

**Transition - Sit to Side Lying**
1. Imagine you are going to lie down on your side in bed
2. Turn the head and chest towards the floor and start to walk the hands away from the body
3. At the latest stage, slide the underneath arm out from under the shoulder so that the head can be supported in the hand as the body is fully lowered to the floor
4. Ensure this movement is performed with control
5. Once lying on the side, tuck the knees up towards the chest to ensure lower back comfort
6. Rest here for a second or two

![Image of transition - sit to side lying]

**Seated alternative**
Perform the Side Bend (Page 11) and the Back Arm Strengthenner (Page 86)

**Transition - Side Lying to Prone Lying**
1. Place the top hand flat on the floor in front of the chest for support
2. Start to straighten the legs and at the same time carefully manoeuvre the underneath arm so that it is out of the way
3. Allow the body to gently roll forwards, moving the arm to a comfortable position
4. Once flat on the tummy, place the hands under the forehead with the fingertips together to support the head
5. Aim to keep the neck long and look directly at the floor

![Image of transition - side lying to prone lying]

**Seated alternative**
Perform the Trunk Twist (Page 13) and the Upper Back Strengthenner (Page 82)
**Transition - Side Lying to Supine Lying**

1. Straighten the top leg and immediately feel the hips starting to roll backwards.
2. Allow this movement to take the body most of the way over onto the back, place the arms at the sides of the body with the palms down.
3. Bend one knee and put the foot flat on the floor, repeat with the other leg, then use the hands and feet to readjust the position of the back so that it is comfortable and the trunk is in line with the knees and feet.
4. Ensure the head remains supported on the floor/pillow throughout this transition.

**Floorwork (FaME) – Transition: Lying (Supine) with Bent Knees to Lying with Straight Knees**

1. With the arms still flat on the floor beside the hips and the palms down, pull in the tummy muscles then slide one foot along the mat away from the body allowing the knee to gently straighten.
2. Rest for a second, pull the tummy muscles in again and repeat with the other leg.

**Seated alternative**

Perform the Trunk Twist (Page 13) and the Back Arm Strengthen (Page 86).

**Seated alternative**

Sit forwards in the chair with a long back, feet hip width apart and hands on the chair seat for support and perform the Seated Hip Walks (Page 4).
Floorwork (FaME) -
Transition: Prone Lying to All 4s; Supine Lying to All 4s

**Transition - Prone Lying to All 4s**

1. Take one hand out from under the forehead and place the palm flat on the floor level with or just above the shoulder.
2. Use this arm to gently roll the body over onto the side at the same time as pulling the knees in towards the chest and sliding the other arm back under the shoulder so that the head is again supported in the hand.
3. Tuck the knees up towards the chest again for lower back comfort.
4. Rest for a second or two.
5. Check that the top hand is still flat on the floor level with the shoulder then again use this arm to push the body weight sufficiently away from the floor to slide the underneath arm out from under the shoulder.
6. Place the palm of this hand flat on the floor near to the shoulder/chest so that the chest is now facing the floor.
7. Use both hands to push the chest away from the floor and walk the hands back towards the hips, bringing the body back to side sit.
8. Rest for a second or two with a long spine and the hands close to the hips.
9. In readiness to come back to all fours, turn the head and chest towards the floor again and place the hands flat on the floor about one and a half times shoulder width apart level with the chest i.e. not too close to the hips.
10. Pull in the tummy muscles then in one dynamic movement press down with both hands whilst lifting the bottom up and placing the weight carefully onto the knees.
11. Reposition the knees so they are hip distance apart and directly under the hips.

Seated alternative
Perform the Trunk Twist (Page 13) and the Back Arm Strengthener (Page 86)
Transition - Supine Lying to All 4s

1. Decide in which direction to roll and prepare to bend the knee (for this example we are rolling to the left and will be bending the right knee).

2. Tighten the tummy muscles then slide the right foot towards the body allowing the knee to bend until the foot is flat on the floor.

3. Place the right arm on the floor out to the side of the body at chest level and make sure the left arm is not too close to the body (otherwise it will be squashed).

4. Initiate the movement by turning the head in the direction of travel (to the left) then bring the outstretched right arm across the body using the momentum and the top hip to activate a controlled roll onto the left side of the body.

5. As the body comes over onto the side, tuck both knees up and support the head in the underneath hand.

6. Continue as above from step 5 of prone lying to all 4s (box).

Floorwork (FaME) - Transition: Lying (Supine) to Lying (Prone) to Box

1. Use the transition described above to transfer from supine to side lying.

2. Use the transition described above to transfer from side lying to prone lying.

3. Use the transition described above to transfer from prone lying to all 4s (box).

Seated alternative
Perform the Trunk Twist (Page 13) and the Back Arm Strengthener (Page 86).
Floorwork (FaME) -
Strength - Side Leg Strengthener: ½ Lever; ¾ Full Lever; 1 + Pillow
Adaptation

Purpose
Tell the person this exercise will strengthen the muscles on the outside of the hip and thigh (abductors) and the hip and thigh bones. To help with everyday activities such as stair-climbing, getting in and out of cars and gardening.

Teaching Instructions
• Let the person know the number of repetitions and sets they will be doing
• Begin in side lying with the head supported in the underneath hand and the top hand resting on the floor
• Make sure that there is a right angle at the knee, the hip and the ankle
• Pull the tummy muscles in to support the back then raise the top leg about about 6 inches so that the lower part of this leg is parallel to the floor
• Hold this position for up to 5 seconds making sure that the hip does not roll back
• Let the person know that they should count quietly out loud up to 5 during the hold to ensure regular breathing
• Slowly lower leg with control

BEGIN WITH 1 SET OF 5 REPETITIONS AND BUILD TO 10 REPETITIONS

Potential Problems
• The person lifts their leg too high so the hips roll backwards
• The person does not keep the lower part of the lifting leg parallel to the floor so that the ankle is lower or higher than the knee
• The person experiences pain or discomfort in the knee or hip or is too weak initially to lift the leg steadily

Solutions
• Reinforce keeping the top hip directly above the bottom hip and ensure some weight is transferred to the top arm and hand
• Initially ask the person to look at their leg position to check that it’s parallel to the floor then maintain this position without looking. Tell them to imagine they are trying to balance a tea tray on the leg without spilling anything
• Start with a pillow placed longways between the legs (from thighs to ankles) to keep the knees hip width apart then progress to the ‘oyster’ position where the feet remain together throughout with only the knees parting on the lift. Then proceed as above but still using the pillow until there is control of movement on the lifting and lowering

Teaching Points
• Keep the top hip directly above the bottom hip throughout
• The top hand should rest on the floor in front of the chest to support the body
• Ensure the head and shoulders stay on the floor throughout
• Feel the muscle work in the outside thigh
• Maintain even and regular breathing
Progression

- Begin with 1 set of 5 repetitions
- Build to maximum hold of 5 seconds
- Build to 10 repetitions
- Progress to new position: Following the lift, partially straighten the knee, hold for up to 5 seconds, return to initial lift position then lower with control and rest
- Progress further by the straightening the knee while maintaining a 45° angle at the hip so that the calf of the working leg is above the foot of the lower leg. Hold this position for up to 5 seconds making sure that the top hip does not roll back. Return to the initial lift position i.e. right angles at both the hip and knee, then lower the leg with control
- Progress further by straightening the knee and the hip so that the top leg moves backwards until it is in line with the trunk. Hold and lower as above

- Add ankle weights
- Build to 2 sets of 10 repetitions
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Standing alternative
Stand tall and perform the Standing Outer Thigh Strengthener (Page 76).

Seated alternative
Sit forwards in the chair with a long back, and perform the Outer Thigh Strengthener (Page 83).
Floorwork (FaME) -
Strength - Back Strength (Prone) and Seated Without/With Bands

Purpose
Tell the person this exercise will strengthen the back muscles (erector spinae) and spine and improve posture. To help with everyday activities such as getting up and down from the floor, gardening and maintaining upright posture.

Teaching Instructions
• Let the person know the number of repetitions and sets they will be doing
• Lie face down on the floor, the elbows out to the side, the palms down with the fingertips touching and the head resting on the hands
• Look directly at the floor, and keeping the back and neck long, lift the shoulders off the floor
• Hold for up to 5 seconds whilst breathing as regularly and evenly as possible
• Let the person know they should count quietly out loud up to 5 during the hold
• Lower with control

BEGIN WITH 1 SET OF 5 REPETITIONS AND BUILD TO 10 REPETITIONS

Teaching Points
• Keep the feet, elbows and hands on the floor throughout
• Look down at the floor at all times to keep the neck long
• Ensure the spine is neutral and the tummy muscles are pulled in
• Feel the muscle work along the length of the back
• Keep the shoulders down away from the ears
• Try to exhale whilst lifting and avoid breath-holding

Potential Problems
• The person looks up, hyperextending the neck
• The person’s feet lift at the same time as the shoulders
• The person’s hands lift off the floor as the shoulders lift
• The person experiences pain in the lower back

Solutions
• Redemonstrate neck position with the forehead parallel to the floor and remind them to look at the floor rather than upwards
• Ensure the feet remain in contact with the floor throughout
• Ensure the elbows and palms remain on the floor throughout
• Place a folded towel under the hip bones, check technique and size of lift, if unresolved discontinue

Progression
• Begin with 1 set of 5 repetitions
• Build to maximum hold of 5 seconds
• Build to 10 repetitions
• Progress to new start position: slide the hands outwards from under the forehead so that the fingertips are about 6 inches apart (but keep the elbows in the same position) then lift as before
• Progress to arms by the sides keeping the hands in contact with the floor then to lifting the hands
• Build to 3 sets of 10 repetitions

[Image of a person lying on the floor]

• At all stages, ensure the person has maintained good technique for at least two weeks before progressing

**Seated alternative**

- Sit forwards in the chair with upright posture, knees and feet hip distance apart
- Place the palms face down on the knees and straighten the arms firmly but avoid locking out the elbows
- The back should be long and the shoulders down away from the ears
- Keeping the arms straight, sit tall, lengthening the back whilst pressing the palms against the knees
- Hold and release as above
- Progress further by placing the band under both feet, holding the ends with the thumbs pointing forwards and work the band through the fingers until there is sufficient tension to get resistance
- Then place the palms face down on the knees and straighten the arms but avoid locking out the elbows
- The back should be long and the shoulders down away from the ears. Keeping the arms straight, sit tall lengthening the back against the resistance of the band
- Hold and release as above
- Progress further by lifting the hands an inch or two away from the knees
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

**Teaching Points**

- Keep the tummy muscles pulled in throughout
- Avoid bending the elbows and pulling upwards or backwards with the arms rather than lengthening the back; the back muscles should be doing most of the work
- Focus on lengthening the back and sitting tall against the resistance of the band

**Potential Problems**

- The person bends the elbows and uses the shoulder and arm muscles so that the hands lift up away from the knees
- The person leans backwards
- The person’s band is too slack or too tight
- The person has insufficient back strength to perform with control

**Solutions**

- Remind them that it is a back exercise and that the arms need to remain straight
- Encourage the person to lift up, growing taller rather than leaning back
- Ensure appropriate band strength and tension for the person
- Perform the exercise without the band
Floorwork (FaME) – Strength - Back Leg Lifts/Back of Hip Strength

Purpose
Tell the person this exercise will strengthen the muscles at the back of the thigh (hamstrings) and bottom (gluteus maximus), improve posture and strengthen the hip and thigh bones. To help with everyday activities such as walking, stair-climbing and getting up from chairs.

Teaching Instructions
• Let the person know the number of repetitions and sets they will be doing
• Lie face down on the floor with the legs straight and together, the elbows out to the side, the palms down with the fingertips touching and the head resting on the hands
• Lengthen one leg backwards along the floor and tighten the buttock muscles in that leg
• Keeping both hips in contact with the floor, lift that leg a few inches off the floor
• Hold for up to a count of 5 then lower with control
• Let the person know they should count quietly out loud up to 5 during the hold to ensure regular breathing

BEGIN WITH 1 SET OF 5 REPETITIONS AND BUILD TO 10 REPETITIONS

Teaching Points
• Keep the spine neutral and the tummy muscles pulled in to prevent the lower back from arching
• Keep the leg straight and ensure the hip stays lightly in contact with the floor
• Ensure the back and shoulders are relaxed by keeping the forehead in contact with the hands
• Ensure the non-working leg remains as relaxed as possible and on the floor throughout

• Feel the muscle work in the bottom and back of the thigh

Potential Problems
• The person lifts the hip of the working leg from the floor
• The person’s non-working leg tenses and even lifts
• The person experiences discomfort or pain in the lower back
• The person lacks control on lowering

Solutions
• Reduce the size of the leg lift to enable the hip to stay down
• Encourage the person to relax everything apart from the working buttock and leg
• Place a folded towel under the hips, check technique and the size of the lift; if unresolved discontinue
• Encourage control on lowering

Progression
• Begin with 1 set of 5 repetitions
• Build to maximum hold of 5 seconds
• Build to 10 repetitions
• Lift the leg, pause, lift a little higher then hold for 5 seconds
• Build to 2 sets of 10 repetitions
• Add ankle weights
• At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Seated alternative
Perform exercise on Page 75

Standing alternative
Stand tall, feet hip width apart, and perform as for back knee strengthener (Page 74) initially. Progress by keeping the leg straight and drawing the foot back along the floor until the foot is an inch or two off the floor. Pause and lower the leg with control. Distribute the weight back evenly on to both feet. Rest and repeat with the other leg.
Floorwork (FaME) – Strength - Prone Abdominals

Purpose
Tell the person this exercises will strengthen the abdominal muscles (transverse abdominis), improve posture and support the spine. To help with everyday activities requiring core strength such as lifting.

Teaching Instructions
- Let the person know the number of repetitions and sets they will be doing
- Lie face down on the floor with the elbows out to the side, the palms down and the fingertips touching, and the head resting on the hands
- The feet should be hip width apart and the back and neck long
- Breathe in slowly, then on exhaling tighten the tummy, pulling the tummy button towards the spine
- Hold for up to a count of 5 whilst breathing as evenly as possible
- Let the person know they should count quietly out loud up to 5 during the hold to ensure regular breathing

BEGIN WITH 1 SET OF 5 REPETITIONS AND BUILD TO 10 REPETITIONS

Teaching Points
- Keep the buttock muscles relaxed
- Keep the forehead resting on the hands
- When pulling in try to think of creating a space between the tummy and the floor or imagine tightening a belt
- Feel the muscle work in the tummy

Potential Problems
- The person is unable to pull in their tummy muscles
- The person holds their breath rather than contracting the tummy muscles
- The person starts to do the back extension rather than the abdominal exercise

Solutions
- Begin by doing the exercise on all 4s
- Encourage even breathing, ask the person to cough to identify the muscles or try imagery such as tightening a belt
- Ensure the person keeps their forehead in contact with their hands and that the back muscles are relaxed

Progression
- Begin with 1 set of 5 repetitions
- Build to maximum hold of 5 seconds
- Build to 10 repetitions
- Progress to new start position: Place the forearms and palms flat on the floor, the elbows directly under the shoulders and the neck in line with the spine. Then keeping the elbows down, press the chest and shoulders up off the floor. The hips should still be in contact with the floor. Perform as before.
- Build to 2 sets of 10 repetitions
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Seated alternative
Sit forwards in the chair with a neutral spine, the knees and feet hip distance apart, hands on thighs and shoulders relaxed and down away from the ears. Breathe in slowly then, on exhaling, tighten the tummy muscles, pulling the tummy button towards the spine. Hold for a count of 5 whilst breathing as evenly as possible. Keep the chest lifted and the shoulders relaxed.
Floorwork (FaME) – Bone Load / Strength - Wrist Bone Load

Purpose
Tell the person this exercise will strengthen the wrist muscles (wrist flexors and extensors) and bones of the wrist, forearms and shoulders. To help with everyday activities such as lifting the kettle, gardening and opening jars.

Teaching Instructions
• Let the person know the number of repetitions/sets/seconds they will be doing
• Kneel on all fours with the wrists directly under the shoulders, the knees hip width apart and directly under the hips
• Move the trunk and hips slightly forward to increase the amount of body weight over the wrists
• Hold for 5 seconds then return to the start position

BEGIN WITH 1 SET OF 3 REPETITIONS AND BUILD TO 6 REPETITIONS

Teaching Points
• Keep the spine neutral and the tummy muscles pulled in to support the spine
• Ensure the neck is in line with the spine
• Keep the elbows soft

Potential Problems
• As the person transfers the body weight onto the hands, the hips drop towards the floor and the back arches
• The person’s neck hyperextends
• The person experiences discomfort in the wrist

Solutions
• Reinforce the importance of keeping the hips lifted and the tummy muscles tight for back safety. Hands on guidance may be needed to help the person achieve a neutral spine. Ensure the hands are not too far forwards of the shoulders
• Reinforce the positioning of the forehead and eyes facing the floor
• Try resting on the knuckles with the hand in a fist keeping the wrist straight or rest on spread fingertips or try a combination of the options

Progression
• Begin with 1 set of 3 repetitions
• Build to maximum hold of 5 seconds
• Build to 6 repetitions
• Progress to new start position taking the hands slightly further forward and repeat as above
• Progress further by widening the hand position
• Build to 2 sets of 6 repetitions
• At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Standing alternative
The start position of the Wall Press Up (Page 98); leaning on the wall with the elbows soft and the spine neutral. Hold and build up as for the All 4s position.

This can be progressed to include the ‘spring and push’ phase of the Wall Press Up (Page 98).

Seated alternative
Perform Seated Wrist Strengthener (Page 90).
Floorwork (FaME) –
Balance / Strength - Prone Balance

Purpose
Tell the person this exercise will strengthen the muscles of the bottom (gluteus maximus), back (erector spinae) and shoulder (posterior deltoid) and improve balance and coordination. To help with everyday activities such as tasks at floor level and moving around the floor.

Teaching Instructions
• Let the person know the number of repetitions/sets/seconds they will be doing
• Let the person know this exercise is low level in terms of balance challenge
• Lie face down on the floor the elbows out to the side, the palms down and the fingertips touching, the head resting on the hands
• The feet should be hip width apart and the back and neck long
• Pull the tummy muscles in then stretch one arm out along the floor so that the elbow straightens and only the fingertips are touching the floor
• Then stretch the opposite leg out behind tightening the thigh and buttock muscles
• Lift the arm off the floor, hold for a second or two then lower with control
• Repeat lifting the head a little way off the floor
• Lift the leg off the floor, hold for a second or two then lower with control
• Progress to lifting arm, leg and head together, hold for a second or two then lower with control

BEGIN WITH 1 SET OF 3 REPETITIONS AND BUILD TO 6 REPETITIONS

Teaching Points
• Keep the spine neutral and the tummy muscles pulled in to prevent the lower back from arching
• Keep the lifting leg straight and ensure both hips stay in contact with the floor
• Ensure the non-working arm and leg remain as relaxed as possible and on the floor throughout
• Keep the spine and neck long and the forehead and eyes facing down

Potential Problems
• The person lifts the hip of the working leg off the floor
• The person’s non-working leg tenses and even lifts
• The person experiences discomfort or pain in the lower back
• The person lacks control on lowering

Solutions
• Reduce the size of the leg lift to enable the hip to stay down
• Encourage the person to relax the non-working limbs and keep in contact with the floor
• Place a folded towel under the hips, check technique and size of lift; if unresolved discontinue
• Encourage control on lowering

Progression
• Begin with 1 set of 3 repetitions
• Build to maximum hold of 5 seconds
• Build to 6 repetitions
• Progress to Box Balance
• At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Seated alternative
Sit tall and forwards in the chair, feet under knees. Lift one arm up above the head, rest, then lift the opposite knee, rest then combine. Keep the tummy muscles tight throughout, but ensure steady breathing.
Floorwork (FaME) –
Balance / Strength / Functional – Box Balance

Purpose
Tell the person this exercise will improve balance and coordination. To help with everyday activities such as tasks at floor level and moving around the floor.

Teaching Instructions
- Let the person know the number of repetitions/sets/seconds they will be doing
- Let the person know this exercise is moderate level in terms of balance challenge
- Start in the box position (all 4s) with the knees under the hips and the hands under the shoulders
- Ensure the spine is neutral and pull the tummy muscles in
- Slide one hand along the floor so that the elbow straightens and only the fingertips are touching the floor
- Then, with control, slide the opposite leg out behind until the knee straightens and only the toes are in contact with the floor
- If possible, then lift the toes off the floor 1 inch followed by the fingertips and hold for up to 5 seconds
- Return the toes and fingertips to the floor at the same time then return the leg followed by the arm back to the start position

BEGIN WITH 1 SET OF 3 REPETITIONS AND BUILD TO 6 REPETITIONS

Teaching Points
- Keep the back and neck long, the pelvis neutral and the tummy muscles pulled in
- Avoid locking out the elbows
- Pull the tummy muscles in a little more just before lifting the toes and fingertips to assist balance and prevent the back from arching
- Move the limbs out and in slowly, smoothly and with control

Potential Problems
- The person is unable to maintain balance when both the arm and leg are lifted off the floor
- The person’s back arches during the lift
- The person is able to lift the leg but not the arm
- The person allows their head to drop so that it is no longer in line with the spine

Solutions
- Initially perform the arm movement separately then return to the start and perform the leg movement. When first combining the two, keep the toes and fingertips in contact with the floor
- Avoid lifting the limbs too high and reinforce the need to tighten the abdominals
- Gradually progress the arm lift from fingertip support to no support
- Reinforce the need to keep the back of the neck long and the forehead parallel with the floor

Progression
- Begin with 1 set of 3 repetitions
- Build to maximum hold of 5 seconds
- Build to 6 repetitions
- Take the arm and leg line higher but never further than hip or shoulder height
- Build to 2 sets of 6 repetitions
- At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Seated alternative
Perform the seated version of the Upward Reach Balance exercise (Page 64)
Floorwork (FaME) –
Balance / Strength / Functional - Rolling

NB Transition from prone to supine; supine to prone repeated

Purpose
Tell the person this exercise will improve balance, skill and confidence in performing this functional
movement which may be a useful coping strategy following a fall.

1. Lie face down on the floor with the elbows out
to the side, the palms down and the fingertips
touching, the head resting on the hands
2. Take one hand out from under the forehead
and place the palm flat on the floor level with or
just above the shoulder
3. Use this arm to gently roll the body over onto
the side at the same time as pulling the knees
in towards the chest and sliding the other arm
back under the shoulder so that the head is
again supported in the hand
4. Straighten the top leg and immediately feel the
hips starting to roll backwards
5. Allow this movement to take the body most of
the way over onto the back, place the arms at
the sides of the body with the palms down
6. Bend one knee and put the foot flat on the
floor, repeat with the other leg, then use the
hands and feet to readjust the position of the
back so that it is comfortable and the trunk it is
in line with the knees and feet
7. Ensure the head remains supported on the
floor throughout this transition
8. Decide in which direction to roll and prepare to
bend the knee (for this example we are rolling
to the left and will be bending the right knee)
9. Tighten the tummy muscles then slide the right
foot towards the body allowing the knee to
bend until the foot is flat on the floor
10. Place the right arm on the floor out to the side
of the body at chest level and make sure the
left arm is not too close to the body (otherwise
it will be squashed)
11. Initiate the movement by turning the head in
the direction of travel (to the left) and bring the
outstretched right arm across the body using
the momentum and the top hip to activate a
controlled roll onto the left side of the body
12. As the body comes over onto the side, tuck
both knees up and support the head in the
underneath hand
13. Place the top hand flat on the floor in front of
the chest for support
14. Start to straighten the legs and at the same
time carefully manoeuvre the underneath arm
so that it is out of the way
15. Allow the body to gently roll forwards
16. Once flat on the tummy, place the hands under
the forehead with the fingertips together to
support the head
17. Then aim to repeat the whole sequence
several times in the same direction to
eventually build to a ‘fluid’ rolling action

Seated alternative
Perform the Trunk Twist (Page 13) and the Upper Back Strengthener (Page 82).
Floorwork (FaME) –
Balance / Strength / Functional - Crawling

Purpose
Tell the person this exercise will improve balance, skill and confidence in performing this functional movement which may be a useful coping strategy following a fall.

Teaching Instructions
• Start in the box position (all 4s) with the knees under the hips and the hands under the shoulders
• The knees should be hip width apart
• Get the feeling of how to transfer the weight by practicing on the spot first
• Unweight one hand then lift it and put it back
• Unweight the opposite knee, lift it then put it back
• Unweight both, lift them and put them back
• Without thinking about it too much, crawl forwards a few steps, pause, then crawl backwards, then sideways

Teaching Points
• Keep the back and neck long, the pelvis neutral and the tummy muscles pulled in
• Avoid locking out the elbows
• When crawling sideways, avoid a possible position where the knees are together as this reduces stability (always use the leg nearest the direction of travel first)

Possible problems
• The person looks at their knees and the head drops out of line with the spine
• The person feels dizzy
• The person experiences discomfort in the wrist

Solutions
• Reinforce the head position for neck comfort and safety
• Stop and check head and neck alignment and slow the movement down; if unresolved discontinue
• Perform with a fist or spread fingertips

Progression
• Directional change as above then adding a semicircle to the right and the left or crawling towards a specific direction e.g. towards the door or chair
• At all stages, ensure the person has maintained good technique for at least two weeks before progressing

Seated alternative
Hip Walks forward and back (Page 4).
Floorwork (FaME) –
Balance / Strength / Functional - Hip Walks

Purpose
Tell the person this exercise will improve balance, skill and confidence in performing this functional movement which may be a useful coping strategy following a fall.

Teaching Instructions
• Sit on the floor with the legs out in front and the knees bent
• Lift the chest and lengthen the spine
• Hip walk forwards lifting one buttock at a time
• Move back in the same way
• If it feels comfortable, try adding the arms in a natural swinging action

Teaching Points
• Keep the pelvis neutral, the tummy muscles pulled in and the spine long
• Keep the knees bent throughout

Potential Problems
• The person rounds the back and/or the person has lower back discomfort or pain
• The person is unable to sit upright on the floor due to inflexibility of the hamstrings

Solutions
• Keep the back as long as possible and ensure bent knees
• For back safety perform chair alternative. When possible, progress to just sitting on the floor supported by the arms initially and ensure sufficient flexibility and strength before progressing to hip walking

Seated alternative
Hip Walks forward and back (Page 4)
Floorwork (FaME) –
Balance / Strength / Functional - Backward Chaining Guidelines for Getting Up From the Floor

- Demonstrate and give technique tips for the backward chaining approach to Getting Down To and Up From the Floor as a reminder/recap (Page 100) even if the group are familiar with the technique.

1. Once back on all fours, crawl towards the chair
2. Take a firm grip of the chair seat with both hands
3. Place the foot of the strongest leg as flat as possible on the floor
4. In one dynamic movement use the arms and legs to push up onto both feet finishing in a shallow squat position with the weight evenly distributed over both feet
5. Keep the knees bent while transferring the hands from the chair onto the thighs then use the legs to push fully up to standing
6. Stand tall and maintain an upright posture while turning around steadily
7. Walk slowly backwards until the chair can be felt at the back of the legs, then bend at the knees and hips and lower into the chair with control
APPENDIX 5
THE EXERCISES
Cool Down (FaME)
Cool Down (FaME) - Circulation Exercises

Purpose
Tell the person this exercise will promote relaxation and gradually return the circulation to a pre-exercise state.

Teaching Instructions
• Let the person know that they are going to be gradually reducing the size and effort of the movements
• Sit tall in the first third of the chair with the knees and feet hip distance apart
• Perform a range of circulation exercises (arm swing, leg march) that progressively reduce in size and intensity, e.g:
• Hold the sides of the chair and march rhythmically with the legs
• Rest the legs and perform an arm swing
• Hold the chair again and pedal the feet
• Return to a small arm swing
• Rest

PERFORM FOR APPROXIMATELY 2-3 MINUTES

Teaching Points
• Maintain a long back
• Ensure the spine is neutral and the tummy muscles are pulled in gently

Progression
• Not appropriate

Standing alternative
As for warm up (Page 5), but in reverse, i.e. moves progressively reduce until walking through on the spot, hands resting on chair seat.
Cool Down (FaME) -
Flexibility Stretches (standing & seated)
Standing Calf Stretch with Seated Alternative

Purpose
Tell the person this exercise will lengthen the calf muscles (gastrocnemius and soleus), improve flexibility in the ankle joint and promote relaxation.

Teaching Instructions
• Let the person know they are going to be doing the same stretches as in the warm up but they will be a little deeper and longer to improve flexibility
• Stand tall with correct posture, feet hip-width apart, knees soft and directly over the ankles
• Place both hands onto the chair back
• Step back with one foot placing the ball of the foot down first then ease the heel down
• Make sure the front knee is bent, the back knee is straight and the back foot points directly forward
• Lean forwards slightly but ensure everything is in line from the back of the head to the heel
• Feel a mild stretch in the calf, move a little deeper then HOLD FOR A COUNT OF 10-15
• Repeat on the other leg
  **PERFORM ONCE ONLY**

Teaching Points
• Think of pressing the back heel into the floor
• Ensure the chair support is used to assist balance as balance problems can reduce the effectiveness of the stretch
• Ensure the spine is neutral and the tummy muscles are pulled in
• Keep the spine long
• Ease gradually into and out of the stretch
• Keep the breathing regular and even

Potential Problems
• The person confuses the strong feeling of muscle work in the front thigh with the feeling of stretch in the calf
• The person’s back foot does not point forward
• The person cannot feel the stretch in the calf
• The person feels unsteady

Solutions
• Ensure the stretch site has been explained
• Invite the person to look down and check the position of their back foot
• Encourage them to take a bigger step back and ensure the heel is fully pressed into the floor
• Ensure that the feet are still hip width apart i.e. the person has not tried to perform the stretch with the feet one behind the other and/or check that they are using the chair to assist balance

Progression
• More than one repetition of each stretch may be beneficial but time will not allow this in a one hour PSI session
**Seated alternative**

**Teaching Instructions**
- Sit tall with good posture, legs hip-width apart and toes pointing forwards
- Hold onto the sides of the chair for support
- Keep one knee bent and directly above the ankle
- Straighten the other leg out in front with the heel resting on the floor
- Pull the toe back towards the shin and slide the heel a little further forward to feel a mild stretch in the calf
- **HOLD FOR A COUNT OF 10-15. Perform once only**

**Teaching Points**
- Take care not to arch the back
- Maintain a neutral spine throughout
- Make sure the knee of the working leg is extended but not locked out
- Keep the breathing regular and even

**Potential problems**
- The person experiences discomfort in the back of the knee
- The person experiences too strong a stretch/discomfort in the calf
- The person leans forwards confusing the stretch with the back of thigh stretch
- The person is unable to straighten their working knee

**Solutions**
- Ensure their working knee is soft or even slightly bent to start
- Reduce the degree of dorsiflexion (relax toes away from shin)
- Ensure they are holding the sides of the chair and sitting tall
- Make sure they start in the front of the chair
**Cool Down (FaME) -**  
**Flexibility Stretches (standing and seated)**  
**Seated Back of Upper Arm**

**Purpose**  
Tell the person this exercise will lengthen the muscles in the back of the upper arm (triceps) and at the side of the trunk (latissimus dorsi) improve flexibility in the shoulder joint and promote relaxation.

**Teaching Instructions**  
- Let the person know the stretch will be a little deeper and longer to improve flexibility  
- Sit forwards in the chair with good posture, legs hip width apart and knees over the ankles  
- Pull the tummy button towards the back to tighten the abdominals  
- Place one hand on the same shoulder and use the opposite hand to gently ease the elbow towards the ceiling, trying to place the fingers down between the shoulder blades  
- Feel a mild stretch in the back of the arm, move a little deeper then HOLD FOR A COUNT OF 8-10  
- Maintain the arm support as you lower with control  
- Repeat on the other side  

**Potential Problems**  
- The person has difficulty with arm movements above the shoulder  
- The person’s lower back arches  
- The person's chin is lowered down onto the chest  
- The person lifts the shoulder of the stretching arm up towards the ear  

**Solutions**  
- Only ease the elbow up as far as is comfortably possible  
- Emphasise the need to maintain tight abdominals and buttocks to prevent arching of the lower back  
- Keep the neck long so that the chin is parallel to the floor  
- Reinforce keeping the shoulders down away from the ears  

**Teaching Points**  
- Ensure the lower back does not arch as the arms move into position  
- Keep the shoulders down and the neck lengthened  
- Keep the chin level with the floor  
- Ensure the spine is neutral and the tummy muscles are pulled in  
- Ease gradually into and out of the stretch  
- Keep the breathing regular and even

**Standing alternative**  
Stand tall with good posture, feet hip width apart, knees soft and over ankles. Perform the stretch as the seated version taking extra care to pull the tummy muscles in; hold stretch for a count of 8-10.
Cool Down (FaME) -
Flexibility Stretches FaME (seated, standing and lying)
Seated Inner Thigh

Purpose
Tell the person this exercise will lengthen the inner thigh muscles (adductors), improve hip joint flexibility and promote relaxation.

Teaching Instructions
• Let the person know the stretch will be a little deeper and longer to improve flexibility
• Sit tall with good posture towards the very front of the chair
• Take the legs to shoulder width or wider apart and place the hands on the inner thighs
• Allow the knees to ease outward and gently press the thighs open until you feel a mild stretch along the inner thigh, move a little deeper then HOLD STILL FOR A COUNT OF 15-20 trying to relax into the stretch
• If the feeling of stretch disappears, take it deeper by breathing out and gently easing further into the stretch
• Release slowly and with control

Teaching Points
• Maintain a long spine
• Ensure the spine is neutral and the tummy muscles are pulled in
• Ease gradually into and out of the stretch
• Keep the breathing regular and even

Potential Problems
• The person cannot feel the stretch

Solutions
• Ensure the person is sitting towards the very front of the chair, legs sufficiently wide apart, sitting tall

Progression
• More than one repetition of each stretch may be beneficial but time will not allow this in a one hour PSI session

Standing alternative
Teaching instructions
Stand tall behind the chair, holding on with one hand, feet shoulder width apart or wider, spine is neutral. Bend the outside knee slowly, ensuring it is over the ankle until you feel a mild stretch along the inner thigh, move a little deeper, then HOLD STILL for a count of 8-10, trying to relax into the stretch.

NB. this position requires a great deal of strength work, hence the shorter hold than in the chair and floor seated alternatives in order to reduce tension to a minimum.

Floor seated alternative
Teaching instructions
Sit tall with good posture, with a pillow or cushion under the hips. Place the soles of the feet together and the hands on the inner thighs. Allow the knees and thighs to ease outwards and downwards and gently press the thighs open. Proceed as in seated stretch.
Cool Down (FaME) - Flexibility Stretches (standing & seated)
Seated Upwards Side Stretch

Purpose
Tell the person this exercise will lengthen the muscles at the side of the trunk (latissimus dorsi), improve spine and shoulder joint flexibility and promote relaxation.

Teaching Instructions
• Let the person know the stretch will be a little deeper to improve flexibility
• Sit forwards in the chair with good posture, legs hip width apart and knees over the ankles
• Place one hand on the same shoulder and use the opposite hand to gently ease the elbow towards the ceiling, trying to place the fingers down the back between the shoulder blades
• Pause briefly and try to relax the shoulders
• Now reach the arm up to the ceiling and if the stretching arm is comfortable without support, release the support arm and place it onto the chair for support
• Take the stretching arm slightly over towards the head and press down on the chair reach further up into the stretch
• Feel the stretch in the side of the trunk, move a little deeper then HOLD FOR A COUNT OF 4
• To recover, support the arm and turn the palm towards the face whilst lowering the arm
• Repeat on the other side

• PERFORM ONCE ONLY

Teaching Points
• Keep the shoulders down and the neck lengthened
• Ensure that the stretch is more upwards than sideways
• Keep the extended arm in line with the ear so there is not a tendency to lean forwards or backwards
• Ensure that the bottom remains ‘fixed’ to the seat throughout
• Ensure the spine is neutral and the tummy muscles are pulled in
• Ease gradually into and out of the stretch
• Keep the breathing even and regular

Potential Problems
• The person has difficulty with arm movements above the shoulder
• The person leans too far to the side (too much lateral flexion of the spine) and their bottom lifts off the chair
• The person does not lean far enough to the side
• The person arches their back or the trunk leans forward or back
• The person’s head and neck are out of line with the spine, with the eyes looking up or down

Solutions
• Perform the first part of the stretch only
• Encourage an upwards and just slightly sideward movement, achieving more of a reach than a bend and reinforce that the bottom must remain in contact with the chair
• Encourage them to feel a stretch in their side
• Reinforce neutral spine and ask them to imagine they are between two panes of glass and therefore can only lean directly to the side
• Emphasise eyes and face forwards

Progression
• More than one repetition of each stretch may be beneficial but time will not allow this in a one hour PSI session

Standing alternative
Stand tall, feet hip width apart, spine neutral. Perform as in sitting placing a hand on either the chair back or on the side of the hip to support the trunk as the arm reaches towards the ceiling.
Cool Down (FaME) -
Flexibility Stretches (standing & seated)
Back of Thigh Stretch

**Purpose**
Tell the person this exercise will lengthen the muscles at the back of the thigh (hamstrings), improve hip joint flexibility and promote relaxation.

**Teaching Instructions**
• Let the person know the stretch will be a little deeper and longer to improve flexibility
• Sit tall with good posture towards the front of the chair, legs hip-width apart and knees bent over the ankles
• Straighten one leg out in front, resting the heel on the floor with the foot relaxed
• Place both hands just above the bent knee to support the back and body weight
• Lift the chest and lengthen the whole upper body upwards and forwards, bending from the hips until a mild stretch is felt in the back of the thigh, move a little deeper then HOLD STILL FOR A COUNT OF 15-20 trying to relax into the stretch
• If the feeling of stretch disappears, prepare to take it deeper by breathing out and gently easing further into the stretch
• Release with control and repeat on the other side
  • PERFORM 1-2 TIMES

**Teaching Points**
• The back should remain neutral and the tummy muscles pulled in as the person eases forward
• Keep looking forward and ease gradually into and out of the stretch
• Keep the breathing regular and even
• The knee of the exercising leg should be soft

**Potential problems**
• The person places too much weight on the hands and the elbows stick out to the side of the body
• The person places their hands on the knee of the working leg
• The person feels the stretch in the calf rather than the thigh

**Solutions**
• Encourage them to bend from the hips rather than the back and look ahead rather than looking down or up
• Bend the exercising knee a little more initially (i.e. more than soft)
• Make sure they are on the front third of the chair or if they are positioned correctly, begin the stretch with a slight bend in the knee and proceed gently and with caution
• Ensure the palms are facing forwards (not inwards) on the thigh and the elbows are under the shoulders
• Ensure the hands are on the non-stretching leg
• Ensure the foot is relaxed and not dorsiflexed (toe pulled up towards the shin)

**Progression**
• If time allows, this is the stretch to repeat more than once as hamstring flexibility is often very poor and is essential for everyday functional activities

**Standing alternative**
Stand side on to the chair with one hand resting on the chair for support. Stand tall with the feet hip width apart and the knees soft. Slide the leg nearest the chair forwards about half a step keeping the foot as flat on the floor as possible. Keeping the chest lifted and over the thighs, ease the hips backwards and down until a mild stretch is felt in the back of the thigh. HOLD FOR A COUNT OF 10 only, trying to relax into the stretch.

N.B. This position requires a great deal of strength work, hence a shorter hold than the seated alternative. A lying alternative can be found on Page 130.
Cool Down (FaME) - Flexibility Stretches
Lying Back of Thigh (Hamstring) Stretch

Purpose
Tell the person this exercise will lengthen the muscles in the back of the thigh (hamstrings), improve hip joint flexibility and promote relaxation.

Teaching Instructions
• Let the person know the stretch will be a little deeper and longer to improve flexibility
• Lie facing upwards with the knees bent and the feet flat on the floor
• Take hold of one leg behind the thigh (keep the hands separate rather fingers interlocked) then ease the knee as straight as possible by extending the foot up towards the ceiling
• Feel a mild stretch in the back of the thigh, move a little deeper then HOLD STILL FOR A COUNT OF 15-20 trying to relax into the stretch
• If the feeling of stretch disappears, prepare to take it deeper by breathing out and gently easing further into the stretch by drawing the leg closer to the trunk
• Release with control and repeat on the other side

Teaching Points
• Keep the bottom on the floor
• Keep the working knee soft
• Make sure the knee, big toe and hip are aligned

Potential Problems
• The person experiences discomfort in the back of the knee
• The person bends their knee fully and pulls their thigh too close too their chest

Solutions
• Reinforce keeping the knee soft or even have the knee slightly bent initially
• Emphasise a ‘long’ leg and discourage over-stretching

Progression
• If time allows, more than one repetition can be included as hamstring flexibility is often poor and is essential for everyday functional activities

Seated and Standing alternative
Seated Back of Thigh Stretch can be found on Page 129.
Cool Down (FaME) -
Flexibility Stretches (standing & seated)
Seated Chest Stretch

Purpose
Tell the person this exercise will lengthen the muscles across the front of the chest (pectoralis major), improve shoulder joint flexibility and promote relaxation.

Teaching Instructions
• Let the person know the stretch will be a little deeper and longer to improve flexibility
• Sit tall with good posture, legs hip-width apart and toes pointing forwards
• Palms resting lightly on the thighs
• Keeping the spine neutral and the tummy muscles pulled in to prevent the lower back from arching, take the arms backwards and hold onto the back of the chair with both hands
• Keep the chest lifted and draw the shoulder blades together until a mild stretch is felt across the chest, move a little deeper then HOLD FOR A COUNT OF 10-15
• PERFORM ONCE ONLY

Teaching Points
• Ensure the spine is neutral and the tummy muscles are pulled in
• Keep the back of the neck long; jaw parallel with the floor, chest lifted
• Ease gradually into and out of the stretch
• Keep the breathing regular and even

Potential problems
• The person cannot reach the back of the chair
• The person arches their lower back
• The person sticks their chin out
• The person lifts one or both shoulders
• The person experiences too much tension in the rib cage and therefore holds their breath

Solutions
• Encourage them to start with their bottom slightly further back in the chair or alternatively place their hands on their bottom
• Remind them to keep their spine neutral and hold their tummy muscles tight to prevent their lower back from arching
• Remind them to keep their neck long
• Remind them to press their shoulders down away from their ears
• Encourage them to breathe out to release the tension and then keep breathing evenly

Progression
• More than one repetition of each stretch may be beneficial but time will not allow this in a one hour PSI session

Standing alternative
Stand tall with the feet hip width apart and knees soft. Keep the spine neutral and the tummy muscles pulled in to prevent the lower back from arching. Take the arms backwards and place them onto the lower part of the bottom, keeping the elbows relatively straight. Lift the chest and draw the shoulder blades together until a mild stretch is felt across the chest. Keep the back of the neck long and the jaw parallel with the floor. HOLD FOR A COUNT OF 10 - 15 as for seated and try to relax into the stretch.
Cool Down (FaME) -
Flexibility Stretches (lying & standing)

Lying Front of Thigh Stretch

**Purpose**
Tell the person this exercise will lengthen the muscles in the front of the thigh (quadriceps), improve hip joint flexibility and promote relaxation.

**Teaching Instructions**
- Let the person know the stretch will be a little deeper and longer to improve flexibility
- Lie face down with the legs comfortably close together and the forehead resting on the hands
- Draw one heel towards the bottom and take a hold of the foot or trouser leg
- Ease the heel gently back towards the bottom until a mild stretch is felt in the front of the thigh, move a little deeper then HOLD FOR A COUNT OF 10-15
- Release the foot slowly and lower it with control
- Repeat on the other leg
- PERFORM ONCE ONLY

**Teaching Points**
- Keep the back long, the pelvis neutral and the tummy muscles pulled in when reaching for the foot
- Ensure the knees are as close together as is comfortably possible
- Keep both hips in contact with the floor
- Keep the head rested down to allow the back muscles to relax
- Ease gradually into and out of the stretch
- Keep the breathing regular and even

**Potential Problems**
- The person cannot reach to take a hold of their foot or trouser leg
- The person experiences cramp in the back of the thigh or foot

**Solutions**
- Use a towel wrapped around the person’s ankle
- Rest for a few seconds then try again but if cramp returns leave this stretch out

**Progression**
- More than one repetition of each stretch may be beneficial but time will not allow this in a one hour PSI session

**Standing alternative**
Top of Thigh Stretch

**Teaching instructions**
Stand behind the chair holding on with both hands. Ensure correct posture with feet hip width apart. Take a small step back with one leg placing the ball of the foot down first then the heel. Bend both knees and do an exaggerated pelvic tilt to bring the hips up toward the nose then stand tall. If necessary, allow the back heel to come off the floor a little to ‘find’ the stretch. Feel the stretch in the top of the back thigh and HOLD FOR A COUNT OF 8-10. This position requires a great deal of strength work, hence a shorter hold than the lying alternative.

**Teaching points**
Keep both hips facing directly forwards. Lift the chest up away from the hips so the back is long and the shoulders are above the hips. Keep the spine and neck long and the eyes looking ahead.

**Potential problems**
The person cannot feel the stretch. The person is unsteady.

**Solutions**
Firstly encourage the fullest range pelvic tilt possible. Also encourage the person to stand tall and lift the upper body slightly backwards. Ensure the feet are hip width not one directly behind the other but remember there is no safe, seated alternative.
Cool Down (FaME) - Flexibility Stretches (standing, seated and lying) Double Arm Upwards Side Stretch

Purpose
Tell the person this exercise will lengthen the muscles (pectoralis major and minor) and the sides of the trunk (latissimus dorsi), improve shoulder joint flexibility and promote relaxation.

Teaching Instructions
• Let the person know the stretch will be a little deeper to improve flexibility
• Stand tall close to the chair with feet hip distance apart and knees soft
• Ensure the shoulders remain pressed down and the neck long, raise both hands up above the head, palms close together and facing inwards
• If it feels more comfortable place one palm against the back of the other hand before taking them over the head
• Feel a mild stretch in the sides of the body under the shoulders
• HOLD FOR A COUNT OF 4
• Release with control turning the palms toward the face to lower
• PERFORM ONLY ONCE

Teaching points
• Keep the spine neutral and the tummy muscles pulled in to prevent the lower back from arching
• Keep the knees soft
• Ensure stretches are held still
• Ease gradually into and out of the stretch
• Breathe regularly and evenly throughout

Potential Problems
• The person arches their lower back
• The person lifts the shoulders up towards the ears and shortens the neck

Solutions
• Reinforce a neutral spine and pulling the tummy muscles in and discourage over-stretching
• Emphasise pressing the shoulders down away from the ears to ensure a long neck
• Emphasise the importance of regular, even breathing
• Perform one arm at a time as Upward Side Stretch or perform seated (see below)

Progression
• More than one repetition of each stretch may be beneficial but time will not allow this in a one hour PSI session

Seated alternative
Sit forwards in the chair with a long back, feet hip width apart and under knees. Ensure the shoulders remain pressed down and the neck long, raise both hands up above the head, palms close together and facing inwards. If it feels more comfortable place one palm against the back of the other hand before taking them over the head. Feel a mild stretch in the sides of the body under the shoulders, move a little deeper and HOLD FOR A COUNT OF 4. Release with control turning the palms toward the face to lower.

Lying alternative
Lie facing upwards with the legs either flat on the floor or the knees bent and the feet flat on the floor. Ensuring the shoulders remain pressed down and the neck long, raise both hands up above the head, palms close together and facing inwards. If flexibility allows, the arms can rest on the floor above the head; if the hands dont touch the floor, place a pillow under them for support. Now stretch the arms and fingers and the legs and toes away from each other. Feel a mild stretch in the sides of the body directly under the shoulders, move a little deeper then HOLD FOR A COUNT OF 4 trying to relax into the stretch. Release with control.
Cool Down (FaME) - Tai Chi - Tai Chi Prep and Rowing the Oar with Seated Alternative

**Purpose**
Tell the person this exercise will complete the cool down for the heart and lungs and ensure the full exercise benefits. To improve movement control and balance and promote relaxation.

**Teaching Instructions**
- Begin with the feet wider than the shoulders, the knees bent, the pelvis neutral, the spine long and the chest lifted
- Now actively relax the shoulders, pressing them down away from the ears and ‘soften the breastbone’. Try breathing out while doing this
- Gently tighten the tummy muscles to support the spine

**Legs:**
- Slide one leg a step ahead of the other keeping the foot facing forwards
- Turn the back foot out to approximately a 45° angle
- Check that both knees are still bent
- Now transfer the body weight forwards and back between the legs, keeping the hips at the same distance from the floor
- This should be a slow, controlled, ‘gliding’ action
- Now relax and bring the legs back to the start position to rest

**Arms:**
- Imagine gently holding an egg in each hand – cup the hand and place the thumb against the first finger then turn the palms towards the floor
- Now perform a rowing action; circle the hands up and then away from the body then down and towards the body
- This should be slow and controlled
- Relax the arms

**Legs & arms:**
- Return to the leg movement (but this time with the other foot ahead)
- Once a steady rhythm has been achieved, add the arm action, circling the arms up and away as the body weight glides forwards

**Teaching Points**
- Maintain bent knees throughout
- Keep the back tall
- Ensure the spine is neutral and the tummy muscles are pulled in
- Make the movements slow and controlled for most benefit
- Keep the feet flat on the floor

**PERFORM FOR ABOUT 2-3 MINUTES**
### Potential Problems
- The person’s front knee comes too far forwards of the toes, the back knee locks and the heel lifts
- The person’s elbows are locked as the arms move away from the body
- The toes of the person’s front foot lift
- The person is unsteady

### Progression
- The front toe can lift as the weight transfers back (but the back heel remains on the floor)
- Progress by travelling the movement forward. Instead of bringing the front leg back to the start position, slide it forward, past and ahead of the supporting leg, turning out the back foot and transferring the weight as before. Alternate legs, building to a smooth, sliding walk forwards. Keep the sliding foot in contact with the floor throughout initially until balance has improved sufficiently to perform the glide with the foot lifted about one inch above the floor.

### Solutions
- Make the leg movement smaller ensuring bent knees at all times
- Make the arm movement smaller and encourage ‘softness’ and ‘fluidity’ of movement
- Reinforce the need to keep the front foot in contact with the floor throughout
- Perform the arm and leg movements separately or perform seated until the person is ready to progress to standing

### Seated alternative
Sit forwards in the chair and use the same leg position as above. Keeping the spine long, lean forwards slightly from the hips until the chest is above mid-thigh. Return to the start and repeat, establishing a slow and controlled forwards and backwards sway. Practice the arm move as above. Combine arms and legs as above.
Cool Down (FaME) -
Tai Chi - Waving Hands Like Clouds with Seated Alternative

Purpose
Tell the person this exercise will complete the cool down for the heart and lungs and ensure the full exercise benefits. To improve movement control and balance and promote relaxation.

Teaching Instructions
• Begin with the feet wider than the shoulders, the knees bent, the pelvis neutral, the spine long and the chest lifted
• Now actively relax the shoulders, pressing them down away from the ears and ‘soften the breastbone’ breathing out while doing this
• Gently tighten the tummy muscles to support the spine

Arms:
• Place one hand in front of the tummy and imagine holding a balloon between the tummy and hand so the hand and arm are rounded and ‘soft’
• Slowly lift the arm, keeping the palm facing the body and look into the palm
• As the hand reaches face level, start to circle it out to the side and allow the palm to turn outwards and downwards towards the floor
• At this point, look away from the hand and turn the head ‘lazily’ back to the front
• Continue lowering the arm with control and circle it back to the start position in front of the tummy

Legs:
• Return the legs to the start position and check the knees are bent
• Now start to transfer the body weight from one leg to the other, keeping both feet flat on the floor at all times

Legs & arms:
• Finally, combine the arm and leg movements, transferring the weight to the right leg as the as the right arm circles out and vice versa

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PERFORM FOR ABOUT 2-3 MINUTES
### Teaching Points
- Maintain bent knees throughout
- Keep the back tall
- Ensure the spine is neutral and the tummy muscles are pulled in
- Make the movements slow and controlled for most benefit

### Potential Problems
- The person’s knees come too far forwards of the toes during the weight transfer
- The person finds that the knees bent position causes or increases knee pain

### Solutions
- Make the leg movement smaller ensuring bent knees at all times
- Take regular rests for the legs or perform with knees soft rather than bent

### Progression
- Progress by travelling the movement forward. However, when transferring the weight to the side at the same time slide the foot slightly forward. Alternate the legs and build to a smooth, gliding walk forwards. Keep the sliding foot in contact with the floor throughout initially until balance has improved sufficiently to perform the glide with the foot lifted about one inch above the floor

### Seated alternative
Sit tall and forwards in the chair with the feet and knees hip distance. Practice the arm move as above. Allow the trunk to rotate slightly towards each hand as it circles out. Rest the arms. Keeping the spine long, shift the body weight slightly from one sit bone to the other establishing a slow and controlled sway. Combine arms and legs as above.
RESISTANCE TRAINING EXERCISES

Guidelines for number of repetitions and sets are given with each exercise

Duration of repetitions: 6 – 9 seconds per repetition
Duration of rest between repetitions: 2 seconds
Duration of rest between sets: 2 minutes or perform a different exercise for a different muscle group, then return to complete a second set for the first muscle group
Progression can be achieved by changing the resistance of the band or altering hand position. Guidelines for progression are given with each exercise

LLT Guidelines for safe & effective free weights use

Safety - free weights
• Check regularly for wear and tear and discard/repair as soon as any flaws are visible to prevent injury.
• Ensure the weights are held lightly but firmly (i.e. not gripped so tightly the knuckles are white).
• Ensure the weights are stored safely when not in use. When putting them on the floor ensure they are together and under the chair. When exercising at home as above or consider placing them on a nearby table but ensure they won’t fall off.
• Use correct lifting technique to collect the weights from and return them to the floor.
• Ensure the participant only ever holds an isometric contraction with a weight for a maximum of 5 seconds and does not hold their breath. It is a good idea to ask them count quietly out loud to 5 to ensure they are not breath-holding. When they lift and lower the weight it should be in a controlled manner.
• Ensure the wrist is firm and straight and the elbow is soft, not locked, in all exercises involving extension of the arm and that the knee is soft, not locked, in all exercises involving extension of the knee.
• Ensure all participants begin with the lightest weight for a minimum of 2 weeks to learn the exercises.

Safety - ankle weights
• Same safety issues apply as for free weights plus ensure that they are fastened securely, i.e. not too tight or loose around the ankle
• Always sit down when putting the weights on and taking them off. Avoid dropping the head too much while fastening the weights to avoid dizziness.
• Wherever possible, rather than wearing one weight and then swapping the weight to the other leg, wear both weights simultaneously to maximise time and minimise safety problems when standing.
• When coming to standing and moving around the back of the chair with ankle weights on, move slowly and carefully as balance will be affected.
• For some people, ensuring the velcro does not tear or damage clothing is important.

Effectiveness
Progression guidelines:
• Remember strength varies from muscle group to muscle group so some individuals may need different weights for different exercises.

• Weeks 1-11 (Skilling Up):
For the first 2-3 weeks use the lightest weight for all participants.

At week 4 identify which weight each participant can lift with ‘strict form’ 10 times (i.e. their 10 Repetition Maximum (RM) or 60% of their 1 RM) yet is beginning to fatigue as they reach the 10th repetition. Work for 2/3 weeks with this weight then reassess. If they can now reach 12 reps with ‘strict form’, progress to the next resistance. After 2/3 weeks reassess again and progress as above.

• Weeks 12-33 (Training Gains):
At week 12 identify which weight each participant can lift with ‘strict form’ 8 times (i.e. their 8 RM or 70% of their 1 RM) yet is beginning to fatigue as they reach the 8th repetition. Work for 2/3 weeks with this weight then reassess. If they can now reach 10 reps progress to the next resistance. (What was 70% is now only 60% as the stronger they are the easier it is to lift the same load.) After 2/3 weeks reassess again and progress as above.

At approximately week 18-20 progress by identifying which weight each participant can lift with ‘strict form’ 6 times (i.e. their 6 RM or 80% of their 1 RM) yet is beginning to fatigue as they reach the 6th repetition. Work for 2/3 weeks with this weight then reassess. If they can now reach 8 reps progress to the next resistance. Then reassess and progress the resistance only at no fewer than 6 repetitions. 6 repetitions at high resistance (80% of IRM) is as high as we recommend for health related strength training.

Special Considerations
For people with arthritis that affects the hands:
• For the first 2 weeks no weight at all.
• Work isometrically not isotonically – particularly important for patients with arthritis/neck/shoulder problems.
• Begin by targeting 1 muscle group only around the affected joint with 1 to 2 isometric repetitions and monitor both in the session and in the day following the session for increases pain or swelling.

• Progress by building up to 1 set of 5 repetitions, maintain for about 2 weeks then add another muscle group and progress to 1 set of 5 isometric repetitions.

• Once all major muscle groups around the affected joint(s) are included begin isotonic work.

• Progression guidelines:
  
  Effectiveness
  
  | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
  
  Safety
  
  1 Cut the band into 2 metre lengths or longer if the individual is tall.
  
  2 Check every 2 weeks for tears or ‘thin’ worn areas and either cut off or discard as appropriate. Also check for stickiness, dust etc.
  
  3 Warn participants about the twanging noise the resistance band makes if let go under tension. Demonstrate this in the first session and assure them this is noisy but usually harmless apart from the chance the band may flick into the eye. Stress the importance of closing the eyes immediately on hearing the noise to avoid this.
  
  4 Ensure the band is held lightly (not gripped so tightly the knuckles are white) and the end is free (not wrapped several times around the palm or fingers).
  
  5 Ensure the participant only ever pulls with a resistance band for a maximum of 5 seconds and does not hold their breath. It is a good idea to ask them count quietly out loud to 5 to ensure they are not breath-holding. When they relax the band it should be in a controlled manner.
  
  6 Ensure the band is stored safely when not in use. Avoid putting it on the floor where it can be a hazard and also easily torn if caught under the foot or chair leg.
  
  7 Ensure the band is kept as wide as possible on all exercises, especially the outer thigh exercise, to minimise any restriction of circulation.
  
  8 Ensure the wrist is firm and straight and the elbow is soft, not locked, in all exercises involving extension of the arm and that the knee is soft, not locked, in all exercises involving extension of the knee.
  
  9 Ensure all participants begin with the lightest band for a minimum of 2 weeks to learn the exercises.

  Effectiveness
  
  Progression guidelines:
  
  • Remember strength varies from muscle group to muscle group so some individuals may need different bands for different exercises.

  • Weeks 1-11 (Skilling Up):
    
    For the first 2-3 weeks use the lightest band for all participants. At week 4 identify which band each participant can pull with ‘strict form’ 10 times (i.e. their 10 Repetition Maximum (RM) yet is beginning to fatigue as they reach the 10th repetition. Work for 2/3 weeks with this band then reassess. If they can now reach 12 reps with ‘strict form’, progress to the next resistance. After 2/3 weeks reassess again and progress as above.

  • Weeks 12-33 (Training Gains):
    
    At week 12 identify which band each participant can pull with ‘strict form’ 8 times (i.e. their 8 RM or 70% of their 1 RM) yet is beginning to fatigue as they reach the 8th repetition. Work for 2/3 weeks with this band then reassess. If they can now reach 10 reps progress to the next resistance band. (What was 70% is now only 60% as the stronger they are the easier it is to lift the same load.) After 2/3 weeks reassess again and progress as above.

    • At approximately week 18-20 progress by identifying which band each participant can pull with ‘strict form’ 6 times (i.e. their 6 RM or 80% of their 1 RM) yet is beginning to fatigue as they reach the 6th repetition. Work for 2/3 weeks with this band then reassess. If they can now reach 8 reps progress to the next resistance. Then reassess and progress the resistance only. Further progressions are therefore increased resistance of band only at no fewer than 6 repetitions. 6 repetitions at high resistance (80% of IRM) is as high as we recommend for health related strength training.

  • Progression to free weights will provide a larger range of progression.

  Special Considerations
  
  For people with arthritis that affects the hands:

  • Cut the band to approximately 2.5 metres.

  • For the first 2 weeks no band at all.

  • Work isometrically not isotonically – particularly important for patients with arthritis/neck/shoulder problems.

  • The instructor should wrap/assist the participant in wrapping/the band loosely around the hand, wrist and forearm, to reduce compression on the joints of the hand.

  • For the wrist squeeze, twist and pull, a useful alternative is to fold the band to a thick, face cloth size and press the band between the palms, then between the back of one hand and the palm of the other.

People with rubber and similar allergies – wear cotton gloves.