

Coach Function - On Your Feet

Student Worksheet

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For each movement below, use the coaching tips as a guideline and example as to how to systematically observe, decide and intervene.

Low-threshold vs high-threshold — read this first

Your muscles recruit in a fixed order: small, low-force units switch on first, and larger, higher-force units are added only as the task demands more. A *low-threshold* task is one that should be met with this quiet, economical recruitment — enough to control the movement, no more.

The fault we're hunting is when someone meets a low-threshold task with a high-threshold strategy: bracing, gripping, globally tensing, or holding the breath to get the job done. The movement might still happen, but it's being bought with far more effort than it needs — a sign the nervous system doesn't yet own the pattern.

Throughout this worksheet, "low threshold" means: can the person produce the control with minimal effort and no overflow? Breath-holding is the most obvious overflow tell, but it isn't the only one.

Scan the code for the full explanation, including the physiology and the other overflow tells to watch for.



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1. Single leg RDL (Romanian Dead Lift)

Purpose

If you have previously increased passive and active straight leg raise **mobility**, then you want to reprogram how to *express it* with control in a weightbearing movement. We aim to teach the lower limb **to create mobility** in the sagittal plane while **controlling against mobility in the transverse and coronal plane** – this is called **dynamic stability** or **dynamic control of motion** or **dynamic motor control**. Being able to do this while still demonstrating diaphragmatic breathing indicates “the nervous system owns the pattern”. Note: If load is introduced, then for safety reasons, there should be an element of breath holding, to generate intra-abdominal pressure for safety.

Set up:

The person stands on one leg.

Knowledge of the result

The person bends over to pick an object placed in front of their foot. This is the basic result.

Knowledge of the performance

The hip is dynamically stable (moving in the sagittal plane while controlling against movement in the transverse and coronal plane). The non-stance leg extends straight back behind them, counterbalancing the trunk. The torso and rear leg move together toward horizontal — roughly forming a “T” or seesaw at the bottom — while the spine stays neutral. The load, if present, (dumbbell, kettlebell, barbell, or bodyweight) lowers toward the floor in front of the stance leg, then you drive through the stance-leg hip to return to standing.

Receiving feedback from the client

- What do you feel?
- Where do you feel something working or most active?
- What words would you use to describe it?



An example of giving feedback to the client about knowledge of result:

This feedback should be related to whether they successfully completed the task or not – the primary task is to hinge forwards to reach the toes or pick up an object in front of the toes while controlling the rest of the body.

The feedback is implied – they successfully picked up the object and stood back up again, or they didn't. They might also pick it up and lose balance.

An example of giving feedback to the client about knowledge of performance (provide **magnitude** and **direction** where possible):

This relates to how they moved when they did the task, and the performance should be related to errors that might contribute to the task being **not successful, not efficient or not safe**.

Look for the errors

In a single leg deadlift, there are common errors that make it look difficult and dirty, where motor control is lost at segments that should be stable.

- The shoulder girdle that grips the weight may lose its statically stable position – this looks like scapular protraction and lateral rotation.
- The trunk may flex and rotate towards the weight during the taking of the weight, giving up static stability.
- The pelvic girdle may rotate on the weight-bearing hip, seen as a drop towards the weight or a compensatory rise away from it.
- The trailing leg may remain in hip flexion, knee flexion and ankle plantarflexion – this triple flexion is contrary to the extension movement required.

These errors are often seen as movement variability, but indicate loss of static stability of segments that aren't supposed to move. The movement should be at the weight-bearing hip and the reaching glenohumeral joint.

Possible feedback

- Your back leg was bent
- Your back foot was pointed out to the side
- Your shoulder moved away from your chest as you reached.
- Note: If load is introduced, then for safety reasons, there should be an element of breath holding, to generate intra-abdominal pressure for safety.



Correction options

Facilitate

- Hold onto a wall/pole/stick for balance support
- Passively position the back leg into extension
 - Verbal cue: *"push your back heel through the wall behind you"*
 - Verbal cue: *"from head to heel, be as strong as steel"*
- Passively position the pelvis into neutral rotation
- Passively position the shoulder into a neutral/packed position

Challenge

- Exaggerate the hip and knee flexion by pushing them into *more* hip and knee flexion
- Exaggerate the pelvis rotation by rotating them into *more* pelvis rotation – this is easiest done by gripping the rear foot and rotating, then challenging them to *"don't let me rotate you"*
- Verbal cue: *"pack the shoulder"*

Bad energy or blocked energy?

Are they:

- Currently in ill-health?
- Suffering pain?
- Fatigued so that their concentration to do a task is impaired?

Do they:

- Have impaired mobility?
 - 70 degrees passive leg raise and preferably active straight leg raise, although often a person can still do an RDL with less movement as they can do so with a soft knee position
- Have enough rear hip extension to **do** extension? (10 degrees beyond neutral is considered normal)
- Have a spine that is limited in mobility?

Regression options

- Single leg standing reactive neuromuscular training



- Active straight leg raise correctives

2. Half kneeling hip flexor stretch

Often we don't consider stretching to require coaching as a movement skill, but there is much to be gained. Consider this example:

Purpose

Stretch the anterior tissue of the lower limb around pelvis/hip/thigh

Set up:

In half kneeling

Knowledge of the result

The person pushes the front knee forwards to lengthen the anterior tissue on the back leg.

Knowledge of the performance

The back hip extends.

Receiving feedback from the client

- What do you feel?
- Where do you feel something working or most active?
- What words would you use to describe it?

Let's jump straight to the errors that make this less successful or efficient or safe

- The lumbar spine moves into extension (this is a body part moving into a plane of motion we didn't choose for – we want hip extension, not lumbar extension. It isn't likely to be unsafe but it does teach a pattern that isn't as successful or efficient as intended.
- Similarly the pelvis tilts anteriorly
- The person holds their breath (indicating excessive effort for a movement that is a low level control of motion. **TIP: you shouldn't need to hold your breath to move your body in a "low threshold" pattern**)

Possible feedback

- Your pelvis tilted **forwards a lot**
- Your back arched a lot



- You held your breath

Correction options

- Place both hands on the front knee. Lock the elbows into extension. Push down firmly onto the top of the front thigh/knee.
 - This activates a pattern of pulling down, or pushing down, engaging a strong abdominal contraction to hold the pelvis and lumbar spine neutral. The pattern works so the coach doesn't have to explain activation of a part.
- Ask them what they were aware of, or what they felt and where, when they do the movement better.

Bad energy or blocked energy?

Are they:

- Currently in ill-health?
- Suffering pain?
- Fatigued so that their concentration to do a task is impaired?

Regression options

- Floor-based hip extension exercises

3. Split Squats

Purpose

Transition from half kneeling towards standing.

Set up:

Half kneeling.

Knowledge of the result

The person rises from half kneeling to split stance, without losing balance, and descends again to half kneeling.



Knowledge of the performance

Lumbo-pelvic segments are statically stable with dynamic stability movement of both hips into extension on ascent and into flexion on descent without hip movement in other directions (rotation or adduction/abduction).

Receiving feedback from the client

- What do you feel?
- Where do you feel something working or most active?
- What words would you use to describe it?

An example of giving feedback to the client about knowledge of result:

This feedback should be related to whether they successfully completed the task or not – the primary task is to rise from half kneeling to split stance without losing balance and without changing the posture of their torso.

So, a client might rise part of the way before losing stability of the lumbo-pelvic regions. *“you lost your balance”, “you didn’t complete the [stand-up] part”.*

An example of giving feedback to the client about knowledge of performance (provide **magnitude** and **direction** where possible):

This relates to how they moved when they did the task, and the performance should be related to errors that might contribute to the task being **not successful, not efficient or not safe**.

Look for the errors

- The front leg collapses inwards (valgus, adduction/internal rotation)
- The torso leans forward or sideways
- The arms are abducted to assist with balance
- The person holds their breath (indicating excessive effort for a movement that is a low level control of motion. **TIP: you shouldn’t need to hold your breath to move your body in a “low threshold” pattern**)
- The lumbar spine moves into extension. This is a body part moving into a plane of motion we didn’t choose for – we want hip extension, not lumbar extension. It isn’t likely to be unsafe, but it does represent the person doing a



movement other than what we're aiming for – dynamic motor control of the hips.

Possible feedback

- Your pelvis **tilted forward a lot** as you stood up
- Your lower back **arched a lot** as you stood up
- Your front leg **collapsed inwards a little bit** as you moved back down
- Your arms were **out to the side a lot** as you stood up
- You held your breath

Correction options

Facilitate

- Facilitate (definition: to help) them to feel what a successful movement is by using hand support (a pole, stick, chair) or raising the back knee with 1 or more pads/blocks
 - Remove the passive assistance of the hand support
 - Lower the back knee
- Have them place their hands behind their heads with their elbows held back into horizontal abduction.
 - Horizontal abduction is coupled with “upper quarter extension”.

Extension leads to reflexive stabilization
- Have them place their hands directly out in front of the chest, clench a fist, one on top of the other, squashing them together
 - One upper limb is pressing down, the other is pressing up – leading to a mixed pattern in the upper limbs which provides a co-contraction around the torso, stabilizing it.
 - Change the hand order to see which one improves the result
- Verbal cues
 - Imagine a torch emitting a light, placed in the middle of your chest and at the level of your belt. Both of them should shine a light forwards as you stand up

Challenge

- Challenge them to feel what a mistaken movement is by:
 - Have them place their hands behind their heads with their elbows held back into horizontal abduction.

- **Apply manual pressure to push the elbows forward, to feel the mistake of collapsing forward**
 - Apply manual pressure to push the knee inwards, to feel the mistake of collapsing into valgus.
 - Or use an elastic band to pull the knee into valgus
 - Have them place one hand, with a clenched fist in a “rack position” (shoulder neutral, elbow flexed, wrist neutral, hand close to the chin on the same side)
 - **Apply manual pressure to press down on the fist to feel the mistake of collapsing forward**
- Initially, the first challenge should be a firm constant resistance to overcome the clients active resistance, then this challenge should change to lighter and oscillating. When done with firm constant resistance, it stimulates prime movers and a higher threshold strategy, which we ideally do **not** want, but it does teach the person what the mistake is via feeling. When done with lighter and oscillating resistance, it stimulates reflexive motor control and low-threshold static motor control.
- Additional non-manual corrections:
 - Torso-Core-activated
 - Pulling bands apart (horizontally or diagonally) or holding kettlebells or dumb-bells in a goblet or rack position
 - Something to stimulate “Reflex stabilization”
 - Reactive Neuromuscular Training with bands
- Then remove the tactile cue.
- Ask them what they were aware of, or what they felt and where, when they do the movement better.

Bad energy or blocked energy?

Are they:

- Currently in ill-health?
- Suffering pain?
- Fatigued so that their concentration to do a task is impaired?

Do they:

- Have minimum hip mobility?



- 10 degrees hip extension
 - 120 degrees hip flexion
- Have mobility dysfunctions in the lumbar spine and thorax?

Blocked practice → Random practice

- Superset with:
 - half-kneeling chop and lift patterns or
 - core-activated hip flexor stretch
 - split squat iso-hold

Regression options

4. Half-kneeling set-up
5. Half-kneeling hip flexor stretch
6. Brettzel stretch

Progression options

7. Add load
8. Progress to dynamic split squats, i.e. a lunge
9. Progress to rear-foot-elevated split squats, i.e. Bulgarian split squats