

FUNCTIONAL TRAINING

Exercise professionals need to observe how the body moves as a whole before correcting specific areas of movement deficiency.

BY ALEXANDRA MIDDLETON, EJOURNAL EDITOR

When it comes to the functionality of the body you cannot look at a single area or body part in isolation. All areas of the body are connected, with functional deficits in one area influencing the movement patterns of another. What this means for trainers is that in order to achieve optimal performance from clients, they need to look at the movement of the body as a whole, correcting motion patterns in multiple areas to ensure the body performs effectively. However, it is not just the physical correlations that trainers need to take into account.

Additional influences such as breathing, sleeping patterns, nutrition, stress and the demands of a person's day-to-day or work commitments have a huge impact on the way they carry themselves and manoeuvre their body. ➔

“EFFECTIVE MOVEMENT PATTERNS MUST BE APPLIED IN EVERYDAY LIFE, NOT JUST WHILE PERFORMING PHYSICAL ACTIVITY.”

While it is built on principles that have existed since the 1900s, functional training in practice is still relatively new. Recognised as a leader in holistic functional training, the C.H.E.K Institute, founded in 1995 by Paul Chek, teaches a style he describes as “looking at the body as a system of systems”. Chek educates exercise professionals about designing programs that incorporate mind-body fitness and traditional training, with an emphasis on building strong referral systems to ensure all elements of the body are working in unison.¹

An accredited exercise physiologist, level three C.H.E.K Practitioner, personal trainer and owner of Human Engineering – a corrective exercise studio, Chas Barclay embraced functional training more than 18 years ago.

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“You can have all the right stretches, all the right exercises and treatments, even surgeries, but if the foundations of how your body works aren’t applied correctly in everyday life, it doesn’t mean much,” Barclay states. “Without corrective exercises, people go around in this vicious cycle getting re-injured or not achieving their desired results in the gym.”



Being able to perform primitive movements is key to way body moves as a whole.
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#exerciseresearch

THE C.H.E.K APPROACH TO UNDERSTANDING THE WAY YOUR CLIENTS MOVE

The key element on which functional training relies is the initial assessment of a client. In his courses, Chek stresses the mantra that ‘If you’re not assessing you’re guessing’. For Barclay, this means clients fill out a five-page questionnaire followed by a two-hour interview.

“This establishes their exercise and medical history, past injuries or surgeries, the type of work they do, the amount of time they spend in commute, whether they have kids or allergies, the amount of water they drink, what and when they eat, the lifestyle they lead, and the list goes on,” he says.

Afterwards, Barclay performs a postural assessment, using photos to give clients a reference point to look back on. “I like to reinforce where they started out from, allowing them to both see and feel the benefits changing their posture brings.”

Barclay will then carry out a functional training assessment to see how these elements influence the way the body moves. He looks at muscle and postural imbalances and any restrictions to motion before proceeding to flexibility and core assessment. The notion behind holistic functional training is that it isn’t just the symptoms limiting your body’s ability to move effectively. For instance, influences such as nutrition can have an impact on the abdominal wall’s ability to function correctly. 🌐

After assessing an individual's core function, the next step is to look at joint stability before observing the body performing primal patterns. "I look at whether the body can squat, lunge, bend, push, pull, twist and walk," says Barclay. "If there's any deviations to those then there will be a carry over for that person's body in terms of anything they do." (Barclay can be seen demonstrating these movement assessments on the right.)

A client might experience undiagnosed lower back pain when they lift their child out of the pram or groceries out of the car. Barclay says, in this instance, a trainer might need to strip back to the basics and focus on their spinal flexion. This is where one of the key philosophies of holistic functional training lies in that correct and effective movement patterns must be applied in everyday life, not just while performing physical activity.

"What a client practices with their trainer needs to be applied to the way they move in everyday life. That's the functional carry over and the way to break the pattern of pain," Barclay says. "Suddenly, daily activities become part of their training program." Once these discrepancies in movement have been identified, corrective exercises put in place and evidence of a normal range of movement can be seen, only then should a trainer work on power and speed. 🔄



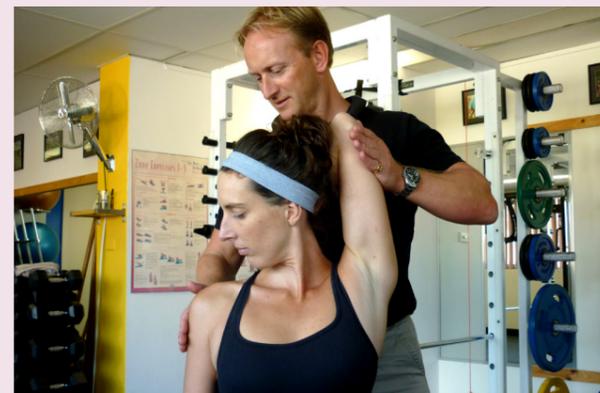
MUSCLE IMBALANCE: Forward Head Posture
Key Points:

Excessive forward head posture can lead to headaches, cervical muscle strains, rounded shoulders and low back pain. The C.H.E.K. Caliper is used as a tool to assist in the initial evaluation of a client, particularly when they present with poor posture.



ABDOMINAL STRENGTH: Prone Jack Knife on Swiss Ball
Key Points:

- Walk hands away from the ball, leaving the shins and feet on the ball.
- Hold the head, neck and back in alignment, draw the belly button gently toward the spine without allowing hips to drive upwards or lower back to flex.
- Client should breathe naturally.



FLEXIBILITY: Levator Scapulae
Key Points:

- Reach one arm down between the shoulder blades.
- Have the client look as far as they comfortably can to the opposite side.
- Take a deep breath in hold for 5 seconds.
- As they exhale, look downward as far as they comfortably can without elbow coming forward.



STABILITY: Supine Lateral Ball Roll
Key Points:

- Shoulders on ball elevate hips so torso is flat with knees over the ankles.
- Place tongue on the roof of the mouth and draw the belly button inward.
- Hold the arms out at 90° with palms up.
- Roll laterally, holding this exact position.
- Don't allow head to flex, arms to lose parallel position to floor, or hips to drop.



STRENGTH: Bent-Over Barbell Row
Key Points:

- Holding a barbell bend forward so that the hands rest just above the knees.
- Keep head and spine in neutral.
- Draw the belly button toward the spine as they draw their elbows towards sky.
- Keep the elbows up, do not pull them back towards their hips; keep shoulders relaxed, not shrugged.



POWER: Reverse Low-Cable Wood Chop with Weight Shift
Key Points:

- Stand with feet hip width apart and rotate torso toward the cable column.
- Do not allow the low back to round.
- Shift weight between legs while rotating upward and diagonally.
- Warning: Do not do this exercise unless clients have normal thoracic extension.

FUNCTIONAL MOVEMENT SCREEN

The Functional Movement Screen (FMS) is another tool used to identify limitations or asymmetries in the fundamental movement patterns of healthy individuals.² Designed to be an objective system for measuring the quality of movement, the FMS is used to assess an individual's form when completing seven exercises: deep squat, hurdle step, inline lunge, shoulder mobility exercise, active straight leg raise, trunk stability push-up and rotary stability exercise. Each of these tests requires a balance of mobility and stability from participants. A score out of three is recorded for each movement, with three indicating quality form and a score of zero indicating that pain is present. The FMS provides the tools to measure, as well as a systematic approach and reliable baseline to evaluate movement.³ The structured system benefits exercise professionals by allowing them to speak the same language when communicating client progress and treatment.⁴

PRIMITIVE MOVEMENT PATTERNS

According to Physiotherapist Gray Cook, creator of the FMS, a key element of assessing the effectiveness of an individual's movement patterns lies in their ability to perform primitive movements. These movement patterns are those you learn during early growth and development, such as rolling, pushing up, quadruped and crawling.⁵ In his blog, Cook says that while many exercise professionals find it difficult to accept the importance of these basic fundamental movements, deficiencies in these areas will have an impact on their client's ability to correctly perform other higher-level movements.



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“Even though many fitness professionals use certain primitive movements in their programming, such as bridging, planking, quadruped and any supine or prone activity, these movements are typically only utilised to improve overall quantity or performance, not quality or efficiency,” Cook states.

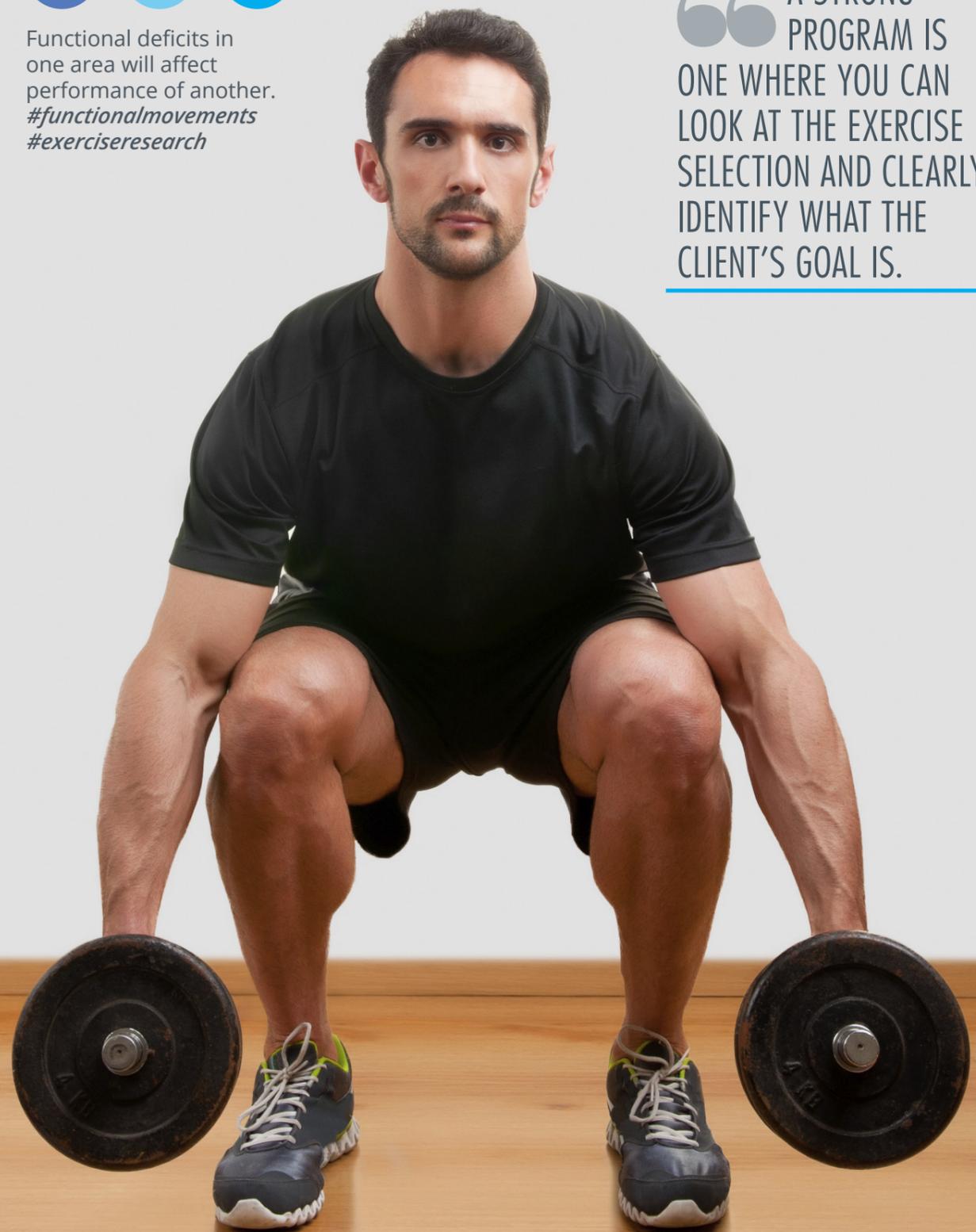
“In many cases, we incorporate bridging and planking, but do we ever stop and look at abilities on a single leg bridge or a side plank and note the differences between the left and right side? We look at quadruped diagonals, but do we count the reps and observe the quality between the two sides? Do we even consider that our clients and

athletes can roll effortlessly to one side but present difficulty in a completely different movement pattern when going to the other side?”

Cook explains that exercise professionals often overlook these movements because their clients are able to perform higher-level movements without difficulty. The issue here is that often these movements are achieved because the individual has compensated for a deficiency in one area by sacrificing movement in another. While primitive movements are developed naturally, as people age they can become compromised by the introduction of more complex movements as well as injury. 🔄



Functional deficits in one area will affect performance of another.
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“A STRONG PROGRAM IS ONE WHERE YOU CAN LOOK AT THE EXERCISE SELECTION AND CLEARLY IDENTIFY WHAT THE CLIENT’S GOAL IS.”

Cook states, “The most intelligent exercise professionals do not ignore these asymmetries and limitations, they confront them head on; they modify workload, reduce positions and even resort to primitive patterns to correct the root cause of the problem.”

Cook recommends using the following techniques to test primitive pattern stabilisation:⁶

1. Observe a single leg bridge, left and right side, first for quality in a static hold, and then look for quantity in a series of repetitions comparing left to right side.
2. Observe side plank ability, both for quality and alignment, and two, for quantity, seconds per hold.
3. Observe push-up position in a more advanced client or athlete. Instruct them to get in the start position for a push-up: elbows extended, neutral spine and then elevate the right leg. Repeat a series of push-ups with the right leg elevated and look for any loss of stability between the pelvis and the shoulders. When difficulty or loss of stability is noted, mark the number of repetitions completed and then repeat with the left leg elevated.
4. Observe the client lifting their opposing arm and leg while attached to resistance bands. Encourage the client to perform the movement slowly, achieving maximum

reach with both arm and leg. Place a foam roller or rolled up towel on their lower back to track stability. Observe the quality and quantity of repetitions on both sides.

CORRECTING POOR MOVEMENT PATTERNS

Once the assessment process is complete and it comes time to design a program for your client, the most important thing is that every exercise prescribed serves a purpose. Barclay says a strong program is one that you can look at the exercise selection and clearly identify what the client’s goal is. He explains that one of the difficulties for functional trainers is that clients are eager to perform more complex movements early in their program. While this is generally more fun and engaging, Barclay says the client will be at risk if you allow them to advance before solid foundations have been established.

Because of the countless factors that come into play in a functional training scenario, it is hugely important for trainers to build strong relationships with other health professionals. Barclay believes that the biggest thing he has learnt is to look outside your own industry. “If we better understand what other health professionals do, we can make more informed decisions about how best to work together to assist clients to recover faster and perform better.” 