

Human Movement Patterns

AND

How to Train Them



By Will Newton

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fitness

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Introduction

Much of the training advice you'll encounter online looks a lot like watered down bodybuilding, a focus on how to build a big chest, back, set of shoulders etc.

When you dig into the programmes, that focus becomes even clearer: how to build as much muscle mass as possible in the absence of other considerations.

To be honest, that's not significantly different to most of what you'll find in most commercial gyms or even personal training facilities.

My first visit to a gym in 1994 was no different. The instructor taking me through my induction was a bodybuilder, and a very impressive one at that. He set me up with a fairly standard 8-12 rep programme on a series of machines and I set to work.

What neither he nor I grasped was that **his** bodybuilding goals weren't applicable to a 5'11", 63kg runner turned triathlete. I needed strength and strength endurance to stave off injury. His programme was suitable for building muscle mass but ignored my need for range of movement and strength gains without the addition of a lot of extra mass.

It took me years to figure out that he was wrong, why he was wrong and to figure out what would work better.

Isolated Muscles or Movement Patterns

Bodybuilding is as valid a sport as any. The commitment and sacrifice involved to get world-class results is extreme and those results should be admired for what they are: evidence of someone who understands how to give 100% to their sport.

But there is a problem with bodybuilding and it's this: the pursuit of aesthetic perfection ignores what the body is really designed to do.

The human body is designed to move.

The extreme isolation of individual muscles to force them to grow, actually inhibits the body's natural way of moving.

A far better approach to weight training is one that emphasises full human movement patterns over isolated muscles.

That's the approach I take.

Yes, I like muscularity and leanness as much as anyone. The chiselled "Michelangelo's David" appearance holds as much appeal for me as almost anyone. But I value physical capacity far more.

If I end up with that chiselled physique because of my pursuit of strength and strength endurance, that's great. If not, that's also fine. Fortunately, having physical capacity tends to make you look like you have physical capacity; just look at most Crossfit athletes.



We have a brain for one reason and one reason only -- that's to produce adaptable and complex movements. Movement is the only way we have of affecting the world around us.

- Daniel Wolpert

Basic Human Movement Patterns

Before we discuss some other issues related to human movement, here's a quick list of those core human movement patterns.

- Hinge
- Squat
- Push
- Pull
- Rotate and Anti-Rotate

I also like to add Ambulation (crawling, walking, and running) as part of the mix because it's a key part of being human.

Before discussing each of these human movement patterns and how to train them, we need to look at a few issues that affect our ability to use these patterns effectively, as well as a couple of other considerations.

Pre-Requisites for Patterns to Work Properly

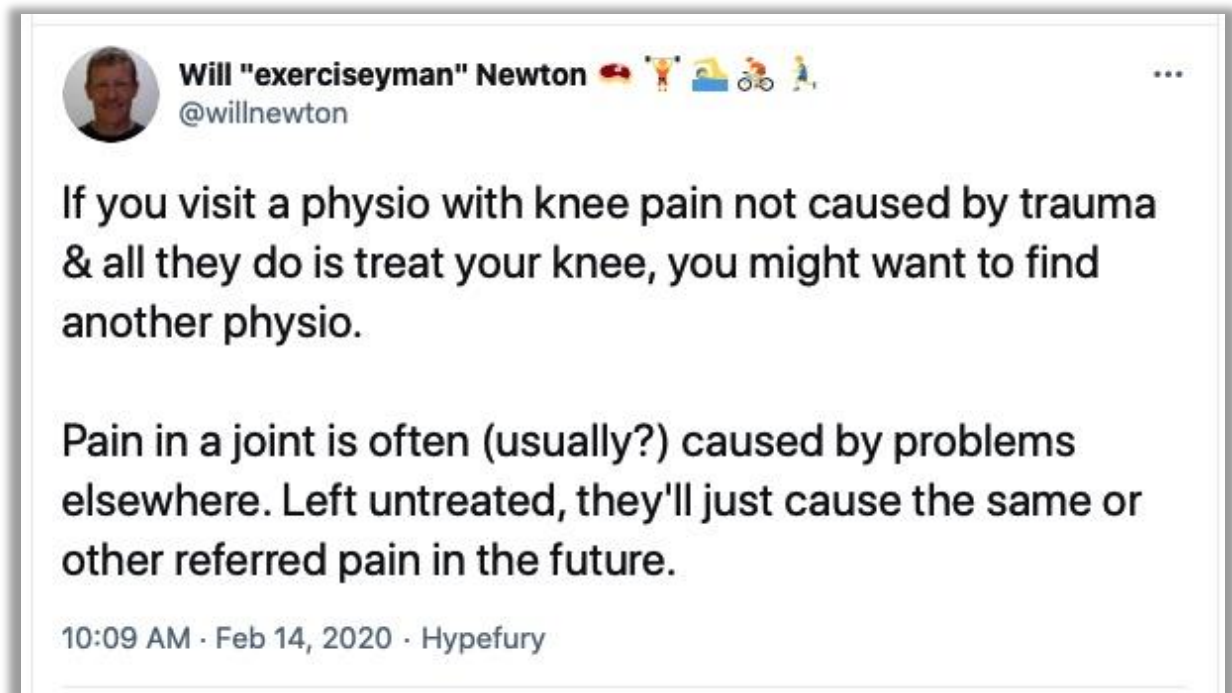
Pain Free

Pain is not a normal state. It indicates that something is wrong, something which we need to address before we start trying to improve our movement patterns.

The problem with pain is that it causes us to move differently, no matter how much we try to avoid doing so. Live with pain for too long and these compensation patterns become permanently burned into our central nervous system; meaning we will always move that way unless we consciously correct the faulty pattern/s.

The consequences of faulty patterns go beyond just avoiding the initial pain but can spark pain or faulty patterns elsewhere. In my article on [fixing your knees](#), I discussed how and why tight hips could be the cause of knee pain.

The bottom line is that you should be able to perform all human movement patterns pain-free. If you have pain in any movement, a visit to a physiotherapist (physical therapist) is in order.



Range of Movement

Another requirement for training human movement patterns is adequate range of movement. It stands to reason that you won't be able to perform a pattern if you can't attain the start and finish points of the movement or even have a restriction somewhere in the middle.

There's often an understanding gap when it comes to range of movement and that's in the difference between flexibility and mobility. I define the two concepts as follows.

- Flexibility is the length that a muscle can attain when you move its origin and insertion points as far apart as possible.
- Mobility is the range of movement you have around a joint under control.

These two things are different.

It's perfectly possible to have extreme flexibility but very poor mobility. On the other hand, you need a degree of flexibility to attain adequate mobility. Also, excessively flexibility might not be as good a trait as some of the extreme yoga folks would have us believe.

Being able to stretch a muscle passively a long way beyond our controlled range runs the risk of muscular injury when our nervous system reflexively tries to correct what it views as a dangerous position.

Alternatively, we risk joint injury when our nervous system can't prevent a dangerous position because we have no control of the extreme joint position that excess flexibility allows.

The bottom line is that optimum range of movement requires nervous system control, including the development first of a degree of flexibility and then control of the muscle/s in that stretched position.

Core Activation and Stabilisation

The third pre-requisite for training optimum human movement patterns is the ability to maintain stability in the movement by correctly activating what is often referred to as your core musculature.

Contrary to much of what is promoted around the internet, this is not simply your abdominal muscles and is definitely not trained by doing crunches, leg raises and oblique crunches.

Instead, it's a complex set of muscular interactions involving our deep abdominal muscles, diaphragm, pelvic floor, muscles of the hip girdle and muscles of the shoulder girdle.

Activation of these should not have to be conscious, but rather reflexive. It can be very hard to consciously activate these core muscles at the same time as focusing on the movement we're trying to perform.

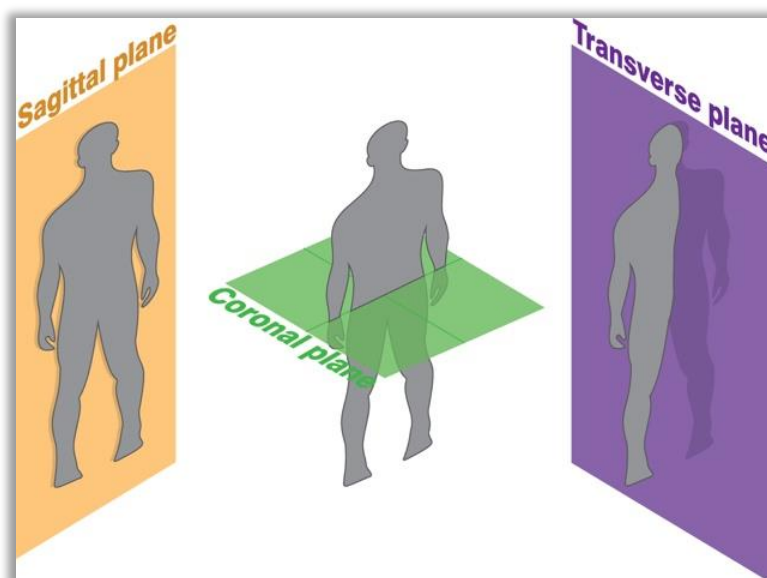
Usually, we over-activate these muscles or activate the wrong ones and inhibit the movement we're trying to perform. The problem with core activation is that it's usually subtle, rather than a forceful muscle contraction.

Simple examples of how we can activate core stabilisation muscles without focusing on them is demonstrated using bands in my [straight leg raise](#) and [fix your knees](#) articles.

Other Considerations

Planes of Movement

Life is lived in three planes of movement; the sagittal, frontal and transverse planes and we move fluently between them and combine them as needed to achieve our goal of efficient movement in a 3D world.



The problem we often encounter in training is that we train in only one plane, usually the frontal plane. This leaves us vulnerable to injury in the real world. In fact, in my work with athletes, I've found that they're very seldom injured during training or competition; they usually get injured in daily life, performing movements that are unfamiliar and not covered by their training.

This has led me to encourage strength training for endurance athletes, not as a way to enhance their sport-specific movements, but to enhance their human-specific movements and thus to avoid injury.

Single-Sided Training

In the same way as we often train only on one plane, most of us train primarily on two legs or using two arms.

The issue here is that much of life - and certainly most sport - occurs on one leg or uses only one arm at a time.

The stabilisation demand of performing patterns on one leg are significantly different and can be far more challenging. Training on two legs all the time is quite clearly not going to cut it for a world lived on one. The same for nice stable two-arm movements.

Incorporating single leg training into our programming comes at a cost to our egos.

- The amount of weight you can lift when unstable on one leg or when using one arm (or even a combination of one arm and one leg) is significantly reduced because of the uneven core demands and the balance requirement.
- Most people don't stabilise well on one leg and are, therefore, likely to move like a wobbly baby giraffe when performing single-sided movements, at least in the beginning.

Poor Positions/Form

Pretty much everyone will preach about the importance of correct exercise technique and if you ever proudly post a video or worse, photo of what you consider a good lift online, you'll be inundated with criticisms from the "technique police".

I've seen this with several athletes who are training for specific competitions and who have purposely lifted fairly big weights in compromised positions because they know they're likely to have to do something similar in the "heat of battle".



"Basically life is improvisation, you are born, you die and in between you improvise. Movement is no different."

- Ido Portal

For every pattern, there is the ideal, "safe" way to perform the pattern and a load of potential variations. Take the squat for example; the ideal form (and the one you want to use most of the time when you load it) involves heels flat on the floor, feet wide enough to make space for your hips, knees not collapsing inwards, spine neutral, chest up etc.

But, for some applications, you could make a case for squats on your toes, or with knees in, or feet together, or a less than ideal back position, or... (you get the point).

Don't write off potential "bad form" versions of an exercise. Instead, whilst doing most of your work with excellent technique, experiment with other options without load.

Understand that they're compromised positions, but that there are some that may have value for your specific situation.

An Approach for Training Human Movement Patterns

The standard way of thinking about training is just to get into the gym, choose exercises that cover each human movement and get lifting. Shortly after starting, the person gets injured.

Why?

Simply have a look at the prerequisites for human movement patterns to work properly, discussed earlier in this article, and you'll spot some potential issues.

The standard response from many social media experts when you confess to having got injured is, "Your form was poor."

They're probably right, but a few pointers on form might not cut it. Instead, it might be that you don't have the mobility, core activation or stability to **allow** you to have good form.

With that in mind, here's the approach I take when training human movement patterns.

1. Test and Improve Mobility

Bottom line: If you haven't got the necessary mobility for particular human movement patterns, you aren't going to be able to perform them correctly, no matter how hard you try.

Acquiring mobility permanently is a bit of a slow process, but the good news is that you gain a little bit of mobility for a short period after mobility exercises. This means that incorporating these in your warmup will give you a bit of space to learn and practice better human movement patterns, at least to some degree.

Any time you're working on mobility, follow the pattern of TEST, INTERVENE, RETEST.

Testing self-evidently tells you where you are now.

Your intervention is where you try to make a change. There is a bit of trick to knowing what interventions you need and it's difficult at first. But because we all tend to have recurring issues, you'll very quickly learn what you need to work on (e.g., Internal rotation on my right shoulder is a weakness for me and has been for years, But I also know what to do to make a change).

Your retest is vital because it tells you whether your intervention has worked or not. Most people omit this step. That's a mistake because you'll always labour under the illusion you did something useful when you might have achieved nothing. Often, these are the same people who have been stretching their hamstrings for a year and still have tight hamstrings.

[Note: For each pattern, I've included a test you can do. The tests are certainly not definitive or "the only test you can do" but they provide you with a starting point.]

2. Fix Stability and Activation Issues

If you lack stability and core activation, again you're unlikely to be able to perform human movement patterns correctly.

There are lots of exercises that you include in your warmups to "switch on" the muscles you're trying to target, as well as ways that you can learn to activate your core musculature. I've included some of these in the descriptions of each pattern.

A word about whole body tension: when performing any of the human movement patterns under load, the ability to maintain full body tension will (a) protect your lower back and (b) allow you to move more weight. For those interested in being as strong as possible, this is the key difference between people who lift enormous weights and those who are probably as strong, but don't lift as much.

3. Learn the Terminal Positions

If you can achieve the beginning and end positions of each movement pattern accurately and under control, you're well on your way to being able to perform the whole patterns.

Start by simply getting into these positions without any load and get a feel for them. This is where a coach, a training partner or your trusty smartphone camera with an app like [Coaches Eye](#) comes in useful. Yes, it's \$4.99 and other apps are available. It's just that I've used Coaches Eye for years and I know it works (I get nothing for the recommendation, just sharing the love).

Once you know what the position feels like without any added load, add some weight and learn what a good position feels like loaded. In some cases, this will actually be easier than with no load because you'll almost be pushed into a better position.

Good terminal positions usually result in better human movement patterns because you move more efficiently when you know where you're starting and where you're aiming to end up.

4. Practise the Movements with No Resistance

It might seem like a step backwards to perform movements with no load, but it's not. Instead, you're allowing yourself to learn, not just where to start and finish, but how to move smoothly between these positions.

Aim for smooth movement and accurate terminal positions. Perform the movements only for as long as you can do them perfectly. Once you're tired, you are no longer learning good form.

An important principle is that what you do last is what your nervous system remembers best; if that's sloppy, tired form, you will have learned sloppy, tired form.

5. Load the Basic Movement

Now comes the moment you've been looking forward to since you decided you were going to do some weight training. You're going to perform the whole of the basic movement with some external resistance.

It's no more complicated than the unloaded version, except that you're now forced to maintain your core tension with a little more focus. Don't go mad on the weights initially, although you should see good progress fairly quickly.

6. Add More Complex Versions of the Movement Pattern

Once you can perform each of the basic Human Movement Patterns accurately under load, it's time to add more complex versions of each.

Adding complexity both challenges and reinforces the pattern that you've already learned.

Complexity can include things like offset loads, single-leg or single-arm versions, different hand positions etc.

7. Combine Patterns

Human movement patterns do not exist in a vacuum; linking them together smoothly and efficiently is what allows us to navigate the 3D physical world we inhabit.

Probably the easiest way to come up with interlinked patterns is to look at what common activities involve and to mimic these.

Some complex patterns will come easily, others will require a bit of help or tuition. Don't be afraid to experiment but remember that there is no kudos to be gained from breaking yourself in the process.

Now that we've had a look at some of the general considerations for training human movement patterns and a framework for doing so, let's have a look at the patterns themselves in a bit more detail.

The Hinge Pattern

The hinge pattern could be described as a **hip dominant** lower body movement pattern.

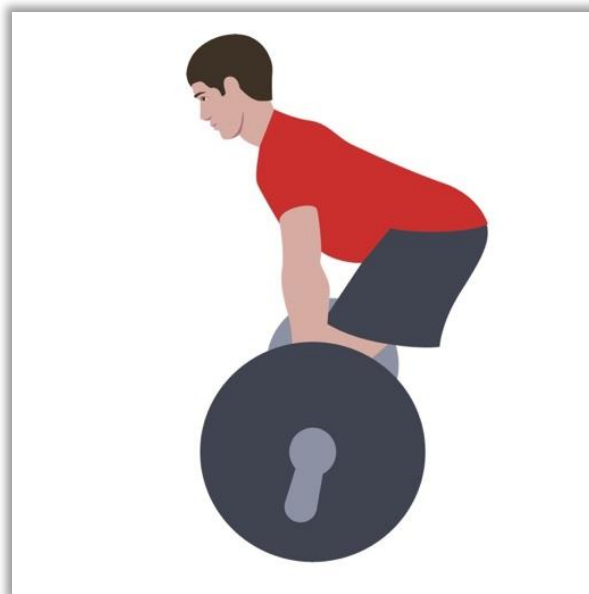
It's how you would pick something up off the floor whilst keeping your knees fairly straight and your lower back neutral.

The hinge movement pattern relies heavily on the glute muscles, arguably the strongest muscles in the human body (aside perhaps from the jaw, apparently).

It's also a pattern in which many people in the western world are severely deficient. Why?

We spend the majority of our lives sitting, usually in slumped, supported positions that require no core activation and no gluteal activation to maintain. By contrast, standing and walking require a degree of core and glute activation just to remain upright.

Our habitual positions mean that we "forget" how to activate these muscles properly and the pattern becomes compromised.



The deadlift is a great example of a strong hip hinge pattern

Mobility

The simplest mobility test for the hinge pattern is to try touching your toes whilst maintaining straight legs. Can you get your hip angle to 90° before you have to give up a neutral spine position (this is the minimum)? Can you get your fingertips on the floor? Palms of your hands on the floor?

Mobility work for most people who struggle with this will revolve around improving hamstring and hip flexor flexibility, the necessary control at the end points of that flexibility.

Core Control and Stability

At its most basic, you need to be able to maintain a neutral spine position throughout the movement.

Finding neutral spine can be done several ways, but I favour the following.

- Stand tall, feet about shoulder width apart.
- Squeeze your glutes hard, while you try to screw your feet into the floor.
- Sniff sharply, focusing on breathing as low into your abdomen as possible (you should feel a strong ab contraction).
- Maintaining the ab contraction, relax your glutes most of the way.

You should now have a strong neutral spine position, forming a pressurised cylinder with your diaphragm and pelvic floor as the ends and your Transversus Abdominis muscle as the walls.

You want to maintain this pressurised cylinder throughout your movement. Think also about keeping your diaphragm and pelvic floor parallel to each other.

How to Perform the Hinge Pattern

Now, we need to learn/relearn how to perform the hinge movement effectively. The following simple exercise will help to teach you what a good hinge feels and looks like.

- Stand about a foot from a wall, facing away.
- Squeeze your glutes (the muscles in your butt) hard and notice that your abs contract at the same time - the neutral spine exercise above.
- Maintaining a quarter to half that contraction, place the heels of your hands in your hip creases and use these as a cue to hinge at the hips whilst keeping your knees straight (or very close to straight).
- Push your hips backwards until your butt touches the wall, without toppling backwards.
- Stand back up by contracting your glutes hard.
- Move another inch from the wall and repeat, adding an inch until you can no longer keep your balance.

Once you've got the basic movement, practise it whilst keeping your feet flat on the floor, weight evenly distributed across the heel, little toe joint and big toe joint and only a small bend in the knees.

Terminal Positions

Start Position

- Standing tall, looking straight ahead

- Feet roughly shoulder width apart (when you do specific exercises, this will vary)
- Neutral spine
- Shoulders packed (down, lats engaged)

Finish Position

- Bent at the hips
- Head remains in line, so you're looking down at the ground
- Knees slightly bent
- Neutral spine
- Shoulder packed

Sample Exercises



Deadlift



Kettlebell Swing

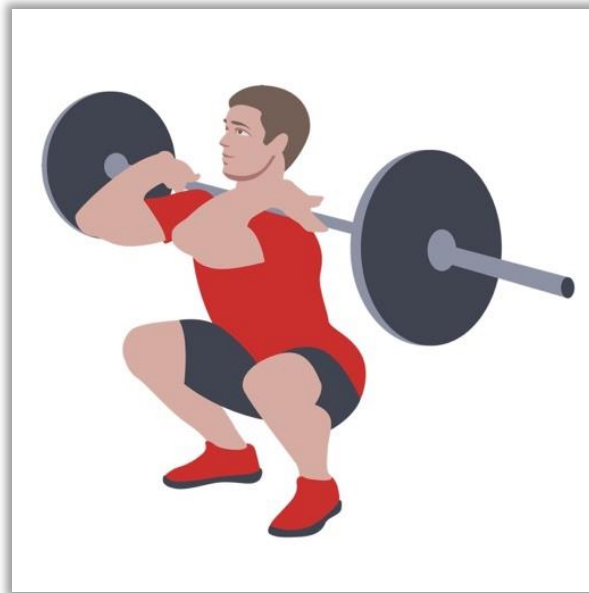
The Squat Pattern

In contrast to the hinge, the squat pattern could be described as a **knee dominant** lower body movement pattern.

Actually, depending on what version you're doing, a squat is a triple flexion movement, flexing at the hips, knees and ankles.

It's the movement you'd perform if sitting into or standing up out of a chair without using your hands.

[The bottom of the squat is a natural human resting position and is still widely used in the developing world for exactly this. Also, if you watch young children playing on the floor, you will most often see them adopt the bottom position of a squat and maintain it for extended periods of time.]



Front squats demand more core control but limit how much you can lift

Mobility

The best mobility test for the squat is the squat itself.

Squat down, keeping your heels flat on the floor, without losing your balance. You may use your arms out in front as a counterbalance. If you want to make it more challenging, perform the squat with your arms overhead, grasping a broomstick, dowel or PVC pipe (this is the version in the Functional Movement Screen).

The most common mobility issues related to the squat are restrictions at the ankle that don't allow the heels to remain flat on the floor, overactive adductor and underactive gluteus medius muscles, forcing an inward knee collapse and general tightness in the major muscles of the legs, limiting the depth of squat that you can achieve.

Core Control and Stability

The same neutral spine principles apply as described in the hinge section.

Activation of the gluteus medius muscles is important to prevent the knees caving in. The easiest way to encourage this is to use an elastic band around the knees, to provide gentle pressure pulling them inwards. The natural reaction is to push the knees out against the band, which is exactly what we want.

How to Perform the Squat Pattern

Starting in a tall standing position, break at the hips and knees and lower yourself as far as you can whilst maintaining a neutral spine position, ideally until you're sitting with your hamstrings against your calves. Your feet should be flat on the floor. Keep your chest up and your head in line (you'll be looking diagonally down at the ground or straight ahead, not up at the ceiling).

I'm going to break with my teaching approach here and recommend a different approach using the [goblet squat](#) to learn the movement easily. First, learn the balanced bottom position of the goblet squat. Then, start in the top position and descend into that bottom position under control, aiming to place your elbows on the teardrop muscle inside your knee (VMO).

If you get your elbows in the right place, with your feet flat on the floor, you'll almost certainly have performed a good squat. Make sure you maintain your core tension to protect neutral spine and stand up, focusing on contracting your glutes.

Terminal Positions

Start Position

- Standing tall, looking straight ahead
- Feet slightly wider than shoulder width apart (in the bottom position, you need space for your hips between your calves)
- Neutral spine
- Shoulders packed (down, lats engaged)

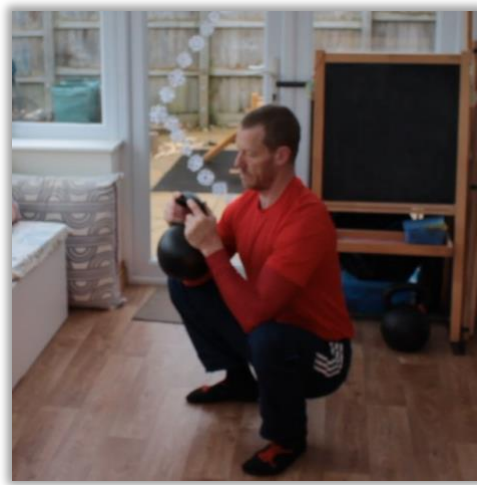
Finish Position

- Bent at the knees and hips
- Neutral spine
- Feet flat on the floor, weight evenly across heel, small toe joint and big toe joint.
- Knees tracking middle of the feet
- Head in line (looking diagonally down at the floor)
- Shoulders packed (even with arms extended out front)

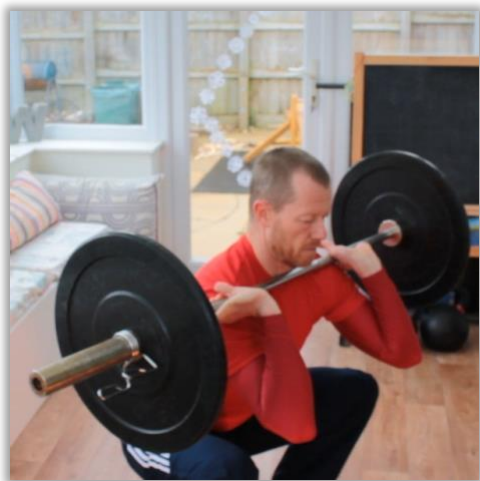
Sample Exercises



Bodyweight Squat



Goblet Squat



Front Squat



Back Squat

The Push Pattern

Self-evident from the name, the push pattern is the act of pushing something away from you.

This is the most popular pattern to train in gyms the world over because it develops the much coveted “show” muscles of the chest and shoulders.

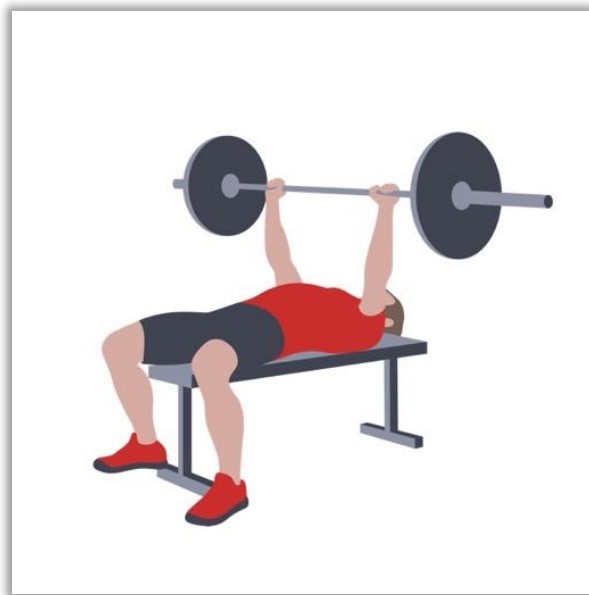
Mobility

The mobility test for the push pattern is a simple internal and external rotation test, which also highlights any lack of thoracic spine mobility.

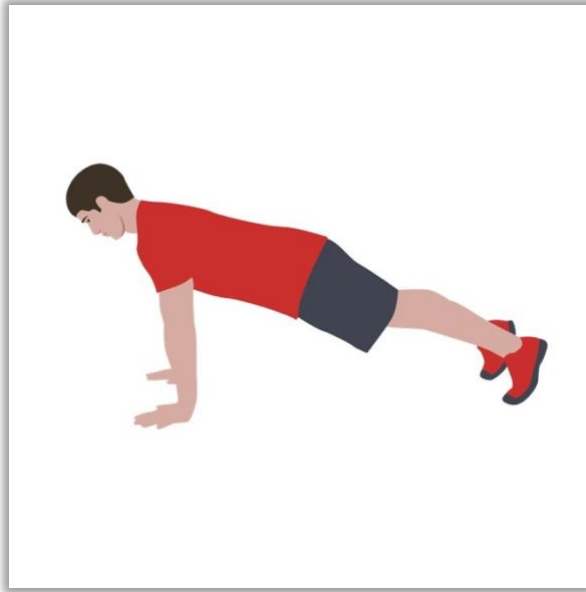
Place one hand over the same shoulder and the other behind your back, attempting to touch the fingers together somewhere between your shoulder blades. You should be able to get your fingers to touch.

If it's painful in either shoulder, you should see a physiotherapist, physical therapist or similar.

If you can't get the fingers to touch, you need to do some work on thoracic spine mobility and internal/external rotation of the shoulders using a foam roller, lacrosse balls and resistance bands. [Rotated Floor Angels](#) are good for working on this.



The bench press is often criticised as "not functional" but it's a great way to learn how to push a heavy load



Most of us have done push ups at some point - often badly!

Core Control and Stability

If you're going to do standing overhead pressing exercises, you'll need the same ability to attain and maintain a neutral spine as discussed previously.

For horizontal pushing exercises (away from you parallel to the floor) you may have to maintain neutral spine in a horizontal rather than vertical position (think push up). If you want to practise effective core engagement, the plank exercise, done properly is a good way to learn this core tension in a horizontal position.

For all pressing exercises, the ability to control your shoulder blades becomes important. Shoulder blades are meant to move as you press at different angles, in order to provide stability at the shoulder.

Scapular push ups, band pull-aparts and face pulls will all help with this important ability.

When pressing heavy, it's important to be able to lock the shoulder blades down and together for shoulder health. Learning to pack the shoulders by contracting the lats is helpful with this.

How to Perform the Push Pattern

Starting in a tall standing position, either with feet roughly shoulder width apart or in a split stance (think one foot in front of the other as if bracing to stop someone pushing you backwards).

Start with the hand/s close in towards the body about the level of the middle of your sternum. As you push the hand/s away, generally speaking, you should keep the elbow/s fairly close to the body but a small elbow flare is OK.

Terminal Positions

Horizontal Press

Start Position

- Neutral spine
- Shoulders packed (lats engaged)
- Shoulder blades pulled down and back
- Hand/s at roughly at mid sternum level
- Elbows bent and tucked in near your sides - a small flair is OK, but arms out at 90° is hard on the shoulders

Finish Position

- Neutral spine
- Shoulders packed (lats engaged)
- Slight protraction of the shoulder girdle (think about spreading your shoulder blades flat on your back)
- Arms straight

Overhead Press

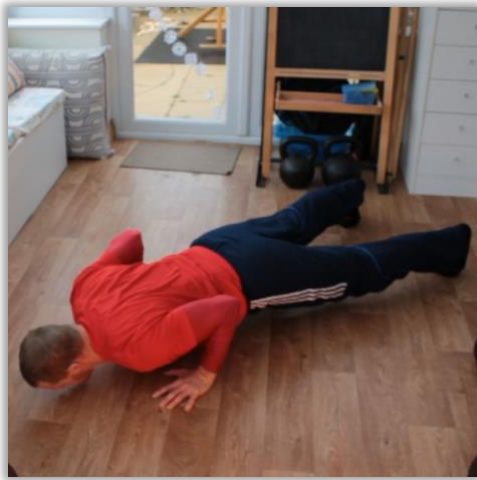
Start Position

- Neutral spine
- Shoulders packed
- Elbow tucked in towards the body (imagine you're trying to stop someone punching you just below the ribs)
- Elbow vertical

Finish Position

- Neutral spine
- Arm directly overhead
- Shoulder packed

Sample Exercises



Push up



Bench Press



Military Press



One-Arm Military Press

The Pull Pattern

The pull pattern is, again, well named as it describes the action of pulling something towards you.

A muscular back is the mark of an athlete. You don't usually need to worry about the person on the other team with the big chest muscles, it's the person with the big glutes and back muscles who you should avoid tangling with on game day.



The pull up is a good indicator of balance between overall strength and body composition

Mobility

Use the same mobility test for the pull pattern as you did for the push pattern.

Core Control and Stability

The same neutral spine approach applies as the other human movement patterns.

For many pulling movements where you're moving yourself in space rather than moving an external load, the ability to maintain a slight hollow body position is an advantage.

How to Perform the Pull Pattern

Probably the most important part of the pull pattern is how you initiate the movement.

Most novices simply try to pull with their arms first (and often that's all they do). Your shoulders and elbows won't like this at all, especially as you get older and are carrying a little more wear-and-tear.

Instead, the first movement should come from your lower trapezius muscles. You'll feel the contraction below your shoulder blades but above your lumbar spine. This contraction should raise you an inch or two if you're doing a pullup, before you then continue the pull with your lats, more of your middle back and your arms.

There are a number variations in exercises for the pull pattern, but the easiest way to think of what you need is pulls with a wide grip (hands far apart) and pulls with a narrow grip (hands close together).

The former are often called rows and focus more on the muscles in your mid and upper back, whilst the latter rely far more on your lats. Of course, there is some crossover, especially as you get tired, but this is more about where the focus should be.

Whilst most people focus on the lats, probably because they're big and give that V-shape, rows are important because it's the mid back muscles (rhomboids and mid/lower trapezius) that contribute most to shoulder health.

Terminal Positions

Pull Ups (anything where you're pulling yourself as the load)

Start Position

- Active hanging - lower trapezius and other back muscles engaged - you're not just hanging passively off the connective tissue of your shoulder capsule
- Comfortable hand position around shoulder width

Finish Position

- Arms flexed
- Collar bones up at the level of your hands
- Shoulder blades retracted (try to pull them together)
- Head neutral
- Slight hollow body position with abdominal muscles contracted

Rows (mostly where you are moving an external load)

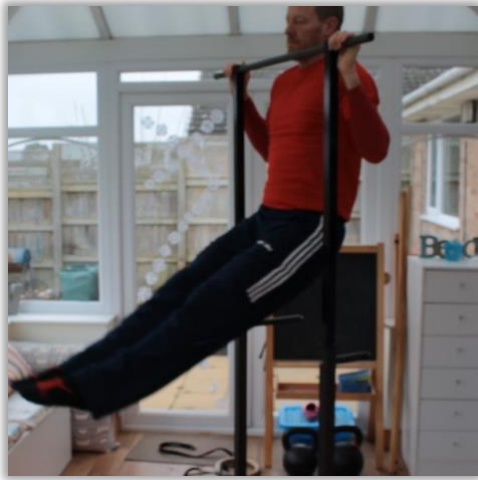
Start Position

- Neutral spine
- Shoulder width or split stance
- Lower trapezius and other back muscles engaged
- Arms extended

Finish Position

- Neutral spine
- Shoulder width or split stance
- Lower trapezius and other back muscles engaged
- Arms flexed, pulling to just below the ribs (your anatomy will dictate your best leverages to some degree)

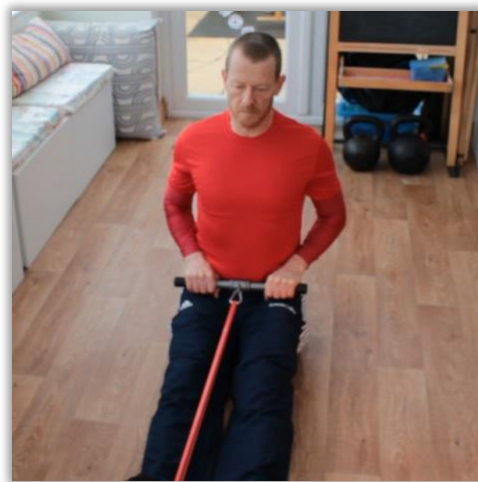
Sample Exercises



Pullups



Ring Rows



Cable Rows

Rotation and Anti-Rotation

The rotation/anti-rotation patterns are important because they tie upper and lower body movements together. They also amplify the power of other patterns.

Consider being punched by someone standing stock-still, shoulders square on to you and punching you in the chest just by extending their arm.

Now, compare that to someone who throws a punch by planting their feet, rotating their hips and shoulders, finishing by launching the fist.

Who is going to hurt you most?

More important is the ability to resist rotational forces. Any time you do an exercise on one leg, use only one arm or when you do something like running, you have to resist rotational forces, both to protect your spine and to transfer forces effectively so that your energy isn't wasted.

Mobility

Rotational mobility is required all the way down the kinetic chain, but the area where many people struggle is with thoracic spine mobility (your thoracic spine is those vertebrae with ribs attached).

Because our modern world tends to make us immobile in that area, many folks find that needed mobility in the lumbar spine instead, resulting in lower back pain over time.

Core Control and Stability

The neutral spine rules that apply everywhere else apply here too. The difference here would appear to be in the rotation but remember that this occurs primarily at the level of the thoracic spine, above the pressurised cylinder that supports a neutral lumbar spine.

Also keep in mind, once again, the need to resist rotational forces. Much of the stabilisation you need to do when resisting rotation is quite subtle, but using the Pallov Press described below, you should notice this core engagement.

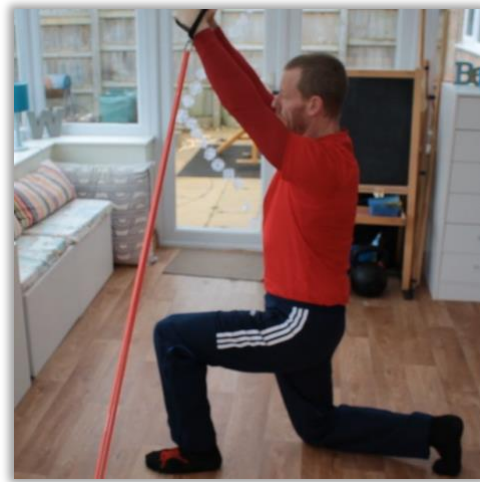
Terminal Positions

Because this is mostly about anti rotation, we're only going to consider maintaining the tall standing neutral spine position.

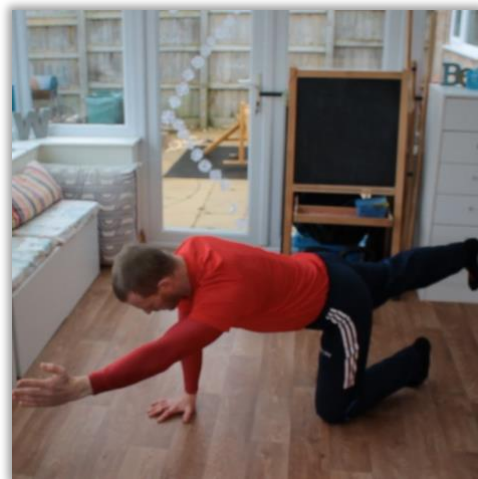
Sample Exercises



Pallov Press



Pallov Press



Superman

Ambulation

The ability to ambulate is a vital human skill. The fact that we could walk and run upright gave us numerous advantages in our evolution.

I have no doubt someone out there wants to sell you a programme to teach you “the right way to walk” but in essence, we all know how to walk. Just think of these...

- Stay tall
- Head over shoulders
- Shoulders over hips
- Hips over feet
- Stay upright by keeping your hips forward as you walk (this is the tough one because all the daily sitting means most people walk a little like a duck, with a forward lean from the hips)
- Swing your arms naturally

Crawling has gained in popularity in recent years and can be effective as a re-education tool where you find walking painful or have poor gait patterns. It's a developmental step towards walking, which is why this regression can help.

Unfortunately, many trainers simply prescribe crawling as a form of punishment/torture and seem not to understand what its proper role in rehabilitating gait might be.

Combining Patterns

Training isolated human movement patterns is a great way to make sure that you do actually train them. But it can never be all we do because living in a 3D world requires that we combine patterns effectively.

Whether it's lifting something off the ground to put it on a high shelf, dragging something heavy across the floor, starting the lawnmower (for those who remember or still have petrol lawnmowers) or simply throwing a ball for the dog to fetch, you must be able to combine human movement patterns if you're going to be effective.

With this in mind, here are a few ideas (not an exhaustive list by any means)...

- Overhead Squat
- Squat to Overhead Press
- Clean and Jerk
- Turkish Get Up
- Loaded Carrying

Keep in mind that some of these are quite technically complex and you'd do well to find a good coach to make sure you learn good technique from the start; as discussed above, learn great form before tinkering with compromised patterns.

Summary

A simple understanding of human movement patterns, how to train them and how to combine them into real world movements will allow you to plan your training to be effective in the real world.

As you've seen, it's a little more complex than simply heading into the gym and going after four or five heavy complex lifts in the hope that they will make you better.

If you're going to get the most from your training, you need to understand that it's not only prime mover strength, but also range of movement, core activation and stability that matter.

Hopefully, this article will get you thinking and stimulate you to learn more about the fascinating subject that is human movement patterns.