

# MOVEMENT

Movement is something that we all do. **Life is movement.**

There isn't a second that goes by without our bodies moving in a multitude of ways. Our hearts are beating, our lungs inflating and deflating with every breath, our intestines are pumping food and liquids along, our blood is circulating, electrical activity is pulsing throughout our nervous systems, our cells are in a constant state of movement and change. We are literally *made of movement*.

But sometimes it's difficult or painful to move in the ways that we want to. Sometimes we become fearful of movement; we worry about moving wrong, injuring ourselves, or causing pain.

While movement is a very complex thing, some principles can be very useful in guiding us to move in a more balanced, comfortable, and confident way.

## KEY MOVEMENT POINTS

- **There is no right or wrong way to move.** Every body is different and every situation is different. Because of this, we each need to find the right way to move for us, given the present circumstances.
- **Awareness is key.** If we want to change the way we move our body, and move in a more balanced, comfortable, and confident way, we must have some level of awareness of our body.
- **Attitude is everything.** An attitude of curiosity and a willingness to experiment is essential to changing our movement. All situations and ways of moving are important sources of information if we are willing to learn from them and use them as practice.
- **There are 4 elements of movement that we will discuss here:**
  1. Context
  2. Balance
  3. Leverage
  4. Momentum

## 1. CONTEXT

Perhaps the most important principle of movement to understand is that *every movement happens in a particular context.*

What this means is that every movement is performed *by a particular individual (you), for a particular purpose, in a particular situation or environment.* Importantly, all of these factors determine how the movement will be performed.

Let's break this down one piece at a time, using walking as an example.

### **Every movement is performed...**

- **...by a particular individual**

- Everyone walks differently because the shape of their body is unique, their relative amounts of flexibility and strength are unique, the way that they learned (and continue to learn) to walk is unique, and more.

- **...for a particular purpose**

- The same person will walk differently if they are walking to get somewhere quickly or they are trying to kill time, if they are walking to meet a respected work associate or walking to meet a friend, if they are walking in a way to avoid pain or if they are walking for exercise, and more.

- **...in a particular situation or environment**

- The same person will walk differently if they are feeling happy or sad, if they are walking on concrete or ice, if they are walking in a well-lit familiar area or a poorly lit unfamiliar area, if they are walking with someone else or alone, and more.

### **EXPERIMENT:**

Walk around your house or wherever you find yourself right now, experimenting with the following:

- Walk as if you're in a hurry
- Walk as if you're bored and have nowhere to go
- Walk as if you're in a really good mood
- Walk as if you're angry
- Walk as if you're walking on slippery ice
- Walk as if you're walking in the dark and cannot see what's in front of you

This is really what's meant by the notion that there's no right or wrong way to move: *each situation will call us to move in a unique way based on our individualities, our purpose or intentions, and the environment we find ourselves in.*

Because of the constant variability of the contexts that we find ourselves in, the only movement that we should consider to be "normal," "good," or "right" is *variable movement: movement that is flexible and adaptable to the present circumstances.*

The other elements of movement described below all fit within the first bullet point above (the individual), but context will be embedded throughout as it is inseparable from the individual.

## 2. BALANCE

Balance is critical to movement. And here we will discuss both balance within our bodies, as well as the balance between effort and ease.

### BALANCE WITHIN OUR BODIES

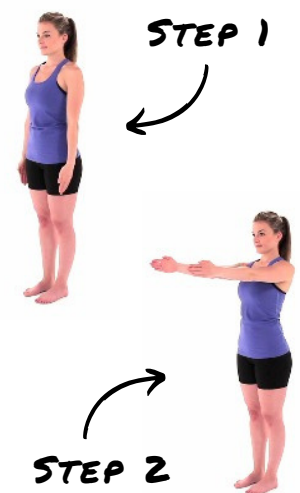
Before we can move with balance, ease, and confidence, we must first be balanced at rest. For more on this, see the [posture resource](#).

When we add movement to a balanced body, what we find is that in order to stay balanced, every movement must have an equal and opposite response.

### EXPERIMENT:

- **Step 1:** Stand with your arms down by your sides.
- **Step 2:** Reach both arms out in front of you so that your fingers point forward. *As you move your arms, notice what you feel under your feet.* Try it a few times.

You'll notice that the pressure under your feet moves slightly backward (toward your heels) when you reach your arms out in front of you, then returns to the starting point when your arms return to your sides. If you have difficulty feeling this, try doing the movement quickly a few times.



This backward weight-shift happens because when we reach our arms out in front of us, our center of mass moves slightly forward, so in order for the body to stay balanced, it will naturally shift backward.

The more our center of mass shifts one way, the more the body must find a way to balance it out. If you try the same experiment above while holding onto some weight, you will notice a larger backward weight-shift take place under your feet.

Much of this happens automatically. But sometimes it doesn't, which is why being aware of this balancing act can be useful.

*If we feel off-balance when doing a particular movement, we will likely not be moving with ease and confidence.* We can experiment with different ways of moving that will help us maintain our balance to foster more ease and confidence in our movement.

### **EXPERIMENT:**

Find a movement that feels difficult, unbalanced, or that you have low confidence in performing. Make sure it's a movement that you can perform a few times without any significant cost or safety concerns.

- Do the movement slowly, noticing at which point(s) it feels particularly difficult, uncomfortable, or unbalanced
- As you move through these difficult point(s), notice the relative balance of your body.
  - If you're standing, *where is the pressure under your feet?*
  - If you're sitting, *where is the pressure under your hips?*
  - If you're lying down, *where is the pressure under your body?*
- If you notice imbalance in any of these areas, how can you restore and maintain balance in your body as you perform the movement?
  - Experiment with different positions or movements of your head, arms, and/or legs to see what feels best

## THE BALANCE BETWEEN EFFORT AND EASE

Movement also requires a balance between effort and ease.

In order for us to walk, for example, our muscles must rhythmically contract and relax at different times. So there must be times when there is effort being put forth, and other times when there is ease within a particular muscle or body region.

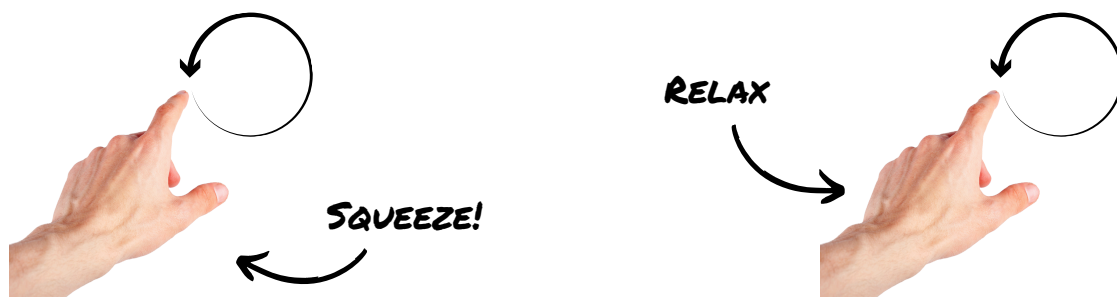
If our muscles were in a constant state of contraction (effort), we wouldn't be able to move. Similarly, if our muscles were in a constant state of relaxation (ease), we wouldn't be able to stand up at all, let alone move. So there must be a balance between effort and ease *from a timing standpoint*, where sometimes a muscle is working, and other times it is relaxed.

But we can also think of this effort-and-ease balance *in terms of degree*.

### EXPERIMENT:

Use your finger to trace an imaginary circle in front of you, under the following conditions:

- **Condition 1:** Squeeze your other 4 fingers in a fist and trace the circle
- **Condition 2:** Relax the other 4 fingers as you trace the circle



What this shows us is how the balance of effort and ease can shift *in terms of degree*. In both examples, there is some effort to trace the circle and some ease to allow the movement to occur, but *the amount* of effort and ease is different.

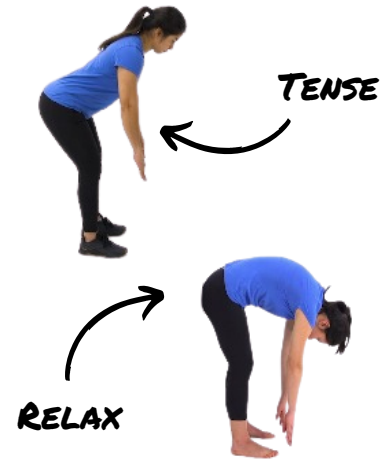
So it's not just whether our body or a part of our body is in a state of effort or ease, *it's the degree to which it is so*. It's not just an on/off, either/or situation (effort OR ease), it's a range or spectrum (*how much effort, how much ease*).

Another very common example of this principle is bending. Many of us have been told to bend or lift in specific ways, focusing on moving or not moving specific parts of our body. Very commonly, we are told to avoid moving the spine when bending down or lifting things. But this is just one movement option of many.

### **EXPERIMENT:**

Pick up something from the floor (like a pen) with your right hand (if you feel safe and comfortable doing so), under the following conditions:

- **Condition 1:** Tense your trunk muscles so that your spine doesn't move as you pick up the pen
- **Condition 2:** Relax your trunk muscles and let all of your body contribute to the movement of picking up the pen



This is another example of how the balance of effort and ease can shift in our bodies.

*So what is the right balance of effort and ease? The right balance is a moving target, constantly changing based on the context.*

And each situation will be different. The balance of effort and ease to bend down and pick up the pen is different than the balance of effort and ease to pick up a 50lb weight from the ground. Even still, within both is a wide range of available options.

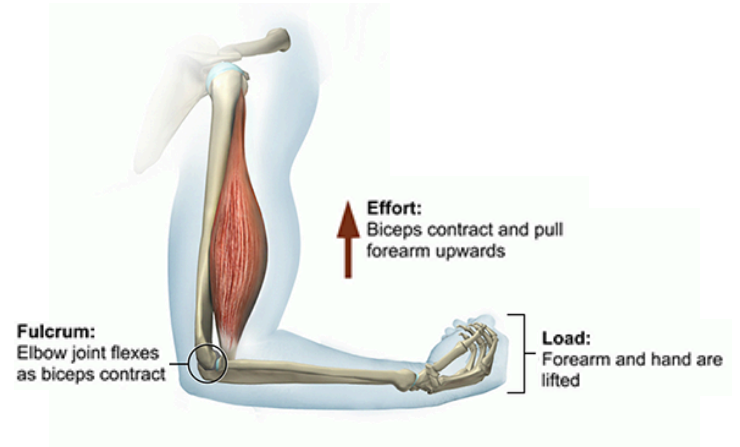
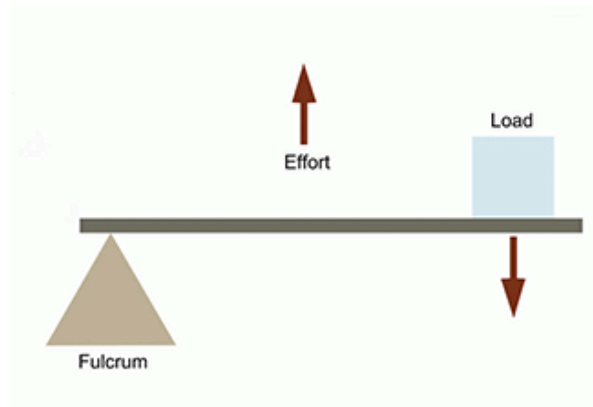
### **EXPERIMENT:**

Find a movement that feels difficult, unbalanced, or that you have low confidence in performing. Make sure it's a movement that you can perform a few times without any significant cost or safety concerns.

- First, do the movement slowly, noticing at which point(s) it feels particularly difficult, uncomfortable, or unbalanced
- As you move through these difficult point(s), notice the relative balance of effort and ease
  - *At what point(s) is there perhaps too much effort, or could there be more ease?*
  - *At what point(s) is there too much ease, or could there be more effort?*
- Experiment with changing the balance of effort and ease during the movement, noticing what feels best

## LEVERAGE

Leverage has to do with the mechanical principle of *Torque*, which has to do with levers. This is relevant to us because our muscles, bones, and joints act as levers in our bodies.



The amount of effort required for us to perform a movement, especially a movement that involves a load, has a lot to do with the distance the weight is from the center of movement (the *fulcrum*). The farther the load is from the fulcrum, the more torque is generated, and the heavier it feels.

This is why when we hold a grocery bag in our hand, it feels heavier than when we put it on our forearm, closer to our elbow. In this example, the elbow is the fulcrum, and the farther away from the elbow we place the bag, the more torque is generated, and the heavier it feels.

In essence, the farther an object is from our body, the heavier it feels. The closer an object is to our body, the the lighter it feels.

### EXPERIMENT:

Pick up an object near you that has some weight to it (e.g. a can of food) under the following conditions:

- **Condition 1:** Hold it close to your body. Notice how heavy it feels in this position.
- **Condition 2:** Outstretch your arm in front of you and hold it here. Notice how heavy it feels in this position in comparison.



Reducing the torque to make a movement easier works in two ways. We can reduce the torque by moving an object closer to us as we lift or move it, as mentioned above. We can also move our bodies closer to the object.

Two examples of this are cooking and doing the dishes. Both of these activities involve a lot of movement (chopping, stirring, scrubbing, etc.). Now, we can do these movements with some distance between our bodies and the countertop, or we can get as close as possible.

### **EXPERIMENT:**

Pick up a dish and scrub it a few times in the sink, under the following conditions:

- **Condition 1:** With a space of 6 inches between the sink and your abdomen.
- **Condition 2:** With your abdomen touching the sink.

*Which one is easier?*

### **ANOTHER OPTION:**

Get a cutting board, a knife, and a food item you can chop. Place the cutting board a few inches from the edge of the countertop. Chop the item a few times, under the following conditions:

- **Condition 1:** With a space of 6 inches between the countertop and your abdomen.
- **Condition 2:** With your abdomen touching the countertop.

*Which one is easier?*

So, the smaller the distance between our body and the object we are working with, the easier things tend to be.

This calls us to be a bit more dynamic during activities. To move objects to optimize our leverage, and when that's not possible, to move our bodies in relation to the objects. Investing in a good apron helps.



## MOMENTUM

Momentum is *mass in motion*. It means that it will take some energy to stop the motion of an object due to its mass.

Momentum can very much be our friend in our quest to move with more balance, ease, and confidence.

When we move in ways that are balanced and reciprocal like walking, we can use the momentum that our bodies generate to make it easier.

When we walk, our arms naturally swing *opposite* the movement of our legs. As this is happening, our trunks twist back and forth. This equal-and-opposite motion occurring in our arms and legs through the twisting motion of our trunks makes for excellent momentum transfer!

*All we need to do to make walking easier is not get in the way of this natural momentum transfer.*

By letting our arms and shoulders swing and our trunks twist, and our knees, ankles, and feet bend, move, and roll, we can let the momentum of our bodies propel us forward *without much extra effort*.

The more we go *with the flow* of the momentum of our bodies, the less effort is required to keep moving.

### **EXPERIMENT:**

Walk around your house or wherever you find yourself right now, under the following conditions:

- **Condition 1:** Keep your hands by your sides and spine straight. Don't let any trunk rotation happen.
- **Condition 2:** Let your arms swing and trunk twist (opposite your legs) as you walk.

*Which one is easier?*

Another example of momentum transfer that happens in everyday movements is pushing or pulling, such as when opening doors.

### **EXPERIMENT:**

Find a nearby door and open it by pushing or pulling it, under the following conditions:

- **Condition 1:** Keep your body still except for your arm that is pushing or pulling it
- **Condition 2:** Move your body first, then your arm\*
  - If you are pulling a door toward you, first lean your body away from the door slightly, then pull with your arm
  - If you are pushing a door away from you, first lean your body toward from the door slightly, then push with your arm

*Which one is easier?*

Just as with walking, this demonstrates momentum transfer within our bodies, in this case from the lower body to the upper body.

### **BRINGING IT BACK**

It can be difficult to tie all these principles together and consider them all when we are moving.

The good news is that we don't have to. *All we need to do is be willing to experiment, learn, and practice.*

The answer lies in where we started—**context**. If we remember that *every movement is performed by a particular individual, for a particular purpose, in a particular situation or environment*, we need only to be aware of what we are trying to achieve and the interplay of the surrounding circumstances. If we keep these two things in mind with a willingness to experiment, we will naturally find ways to move with more balance, ease, and confidence.

The ways of moving that are helpful and feel good, we will naturally remember and repeat. And the more we experiment and practice, the more this process of learning and change will continue.

**HAPPY MOVING!**