

# The Case for Mobility



**FIT TO THRIVE / F2T**

## Background

There are many factors that influence *how* each of us moves while working, playing or navigating life's daily activities, one of which is our joint *mobility*. In other words, on any given day, the way we walk, get of bed, put on our pants, etc. will be influenced by how much joint range of motion we have (passive) and access (active) through the coordinated contraction of our muscles.

Despite vast differences in our population's physical activity and lifestyle habits, and thus the physical capacity (e.g. strength, aerobic capacity) required to perform safely and effectively, we all need mobility. The ability to move our joints and position our body segments so that we can sit on a toilet, wash our hair, walk up stairs or tie our shoes transcends any differences that may exist in our physical demands.

Possessing the motivation, knowledge and fitness to perform a specific physical activity may mean very little without the requisite mobility. Forced to find alternative movement solutions to fulfill the need or desire to perform (e.g. tying your shoes), larger ranges of motion will be sought from adjacent joints (e.g. if hip mobility is limited, the knees or low back may be asked to accommodate).

For these reasons, mobility should be one of, if not the first piece of information gathered when assessing a client's physical needs. Knowing whether they have the ability (passively or actively) to place their body in specific positions will shed light on their available movement solutions and help to personalize any exercise, education or coaching solutions.

## Evidence-Informed Practice for Work, Life and Play

Establishing a link between joint mobility and injury, performance and quality of life.

### WORK

Anyone who 'lifts' at work, whether boxes, people, or equipment, knows that it can be hard on the back. At any time, approximately 25-30% of workers are likely to have back pain, while up to 85% should expect to report discomfort at some point during their career ([Walker, 2000](#)). However, rarely is a worker's mobility discussed within this context, despite evidence showing that limiting *ankle* mobility can increase the low back load by 23% ([Beach et al., 2014](#)). If unable to dorsiflex the ankle (move shin forwards over foot), more range of motion will be needed from adjacent joints such as the hips or low back to pick up an object from the floor. When the low back is forced to help out by flexing, the muscles are reoriented and less able to contribute thus requiring more work from the supporting ligaments and discs (not ideal!).

### LIFE

Have you ever considered how much shoulder range of motion you need to perform your activities of daily living? To simply wash your back, comb your hair, get dressed, and go to the bathroom on your own requires approximately 120° of shoulder flexion and 45° of shoulder extension. If unable to access this range for any reason, other joints will need to accommodate (e.g. arch your back to raise your arms overhead), assistance from a friend or family member may be needed, or you will be forced to avoid the task altogether (which is often not an option). Those who have had their arm in a sling for any period of time would probably attest to the negative impact on their quality of life, and thus the importance of maintaining shoulder mobility.

### PLAY

We all like to feel good and have the option to engage in some form of 'play', be it games, sports or physical activity with family and friends. Having access to hip mobility can provide the millions who enjoy golf, for example, with the opportunity to perform at a high level while keeping them pain free. Golf requires hip flexion during the set-up, and extension, internal rotation and external rotation during the swing. Golfers with more hip rotation are able to move through a larger range during the down swing thus allowing them to produce higher club head speeds and longer driving distances. Hip mobility deficits (particularly with the lead leg) have also been associated with an increase in low back pain amongst professional and amateur golfers.

## Conclusion

Adequate ankle dorsiflexion, hip flexion and extension, and shoulder flexion and extension mobility are not "nice to have" for fire fighters; mobility is foundational to performance and injury risk reduction, on the job and off. Whether lifting at work, completing station activities, or engaging in sport or recreational pursuits, the ability to access and control joint range of motion helps shape how we move. When mobility is limited, the body is forced to explore compensatory movement solutions, oftentimes unfavorably loading adjacent joints and tissues. Over time, these compensations can contribute to cumulative injury risk and reduced performance. By prioritizing mobility, we can help fire fighters across different domains of work, life, and play across their career and life.