Improving Flexibility

Why Is Flexibility Important?

Flexibility is one of the main determinants of physical fitness, but it is often overlooked.[1] Maintaining range of motion in the body's joints is important for basic functioning and may (along with other components of musculoskeletal fitness) be especially important to maintaining functionality in the setting of aging, injuries, and chronic illnesses.[2,3]

While more research is still needed regarding the specific role of flexibility in overall physical fitness and health, most experts agree that structured flexibility exercises improve patients' general health.[1-3] Small preliminary studies have suggested that flexibility may reduce arterial stiffening, which could theoretically reduce cardiovascular disease rates.[4] Stretching can also improve blood flow, lower blood pressure, and decrease the stiffness of arteries in patients.[5] Finally, flexibility exercises have consistently demonstrated benefits in short- and long-term balance performance.[6,7] Although previously suggested in expert guidelines, current research does not suggest that flexibility contributes to a decreased risk of injuries, falls, and chronic pain.[1] However, in practice, certain medical conditions such as osteoarthritis[8] and adhesive capsulitis[9] often warrant special attention to flexibility training to preserve or regain function.

Despite these inconsistencies in current research on flexibility training, being able to move the body in a wider range of positions and movements gives us more options for accomplishing work, enjoying play, expressing ourselves, and finding comfort. When flexibility increases, the range of possibility increases.

What Factors Affect Flexibility?

There are a variety of factors that contribute to a given person's tendency to be more flexible or stiff. Females tend to be more flexible than males, and flexibility generally declines with age.[3] Numerous genetic conditions such as Marfan's syndrome and other connective tissue disorders affect flexibility. Joint hypermobility and joint hypermobility syndrome are two overlapping and somewhat poorly understood conditions associated with pronounced flexibility. These conditions exist on a continuum of severity,[10] affect up to 30% of the population,[10] and exhibit a strongly heritable risk pattern.[11,12]

High degrees of flexibility achieved at a young age may be subsequently maintained into adulthood. For example, athletes and artists who exhibit high degrees of flexibility, such as gymnasts and contortionists, typically require initiation of flexibility training at a young age. Long-term conditioning through training and habit undoubtedly contributes to long-term flexibility differences.

How Can Flexibility Be Measured?

Though the sit and reach test primarily focuses on hamstring extensibility (and is not a reliable measure of lumbar flexibility), it has been used around the world as a basic instrument for measuring baseline flexibility).[13,14] If patients are interested in establishing their baseline flexibility, consider providing the instructions included at the end of this handout under additional resources. Other measures of flexibility include the zipper test, which evaluates shoulder flexibility, and the sitting-rising test, which may also predict overall mortality risk.

How Can Flexibility Be Developed?

The American College of Sports Medicine recommends that healthy and older adults perform stretching exercises at least 2 days per week, spending about 1 minute on each major muscle tendon group (shoulder girdle, chest, neck, trunk, lower back, hips, posterior and anterior legs, and ankles) for about 10 minutes per session.[1,3] Current literature does not suggest added benefit from performing static or dynamic stretching before exercise, but warming up with light aerobic activity is still recommended.[15,16]

There are many forms of exercise and physical activity that emphasize flexibility. The following is a short list to consider recommending to patients interested in improving their flexibility:

- **Yoga**—Research supports the use of yoga to increase flexibility.[17]
- **Pilates**—Research also supports Pilates for increasing flexibility.[18]
- **Massage**—Many types of massage seek to maintain flexibility of the joints and soft tissues.
- **Tai chi**—This "inner" martial art expresses the ideal of strength with flexibility and has been consistently observed to facilitate flexibility.[19]
- **Other martial arts**—These often work explicitly to develop flexibility.
- **Dance**—In many forms from around the world, dance is a fun way to stay flexible.
- **Gardening**—For much of human history, humans have been bending, squatting, and kneeling for horticulture.
- **Housework**—Depending on how it is done, housework can be a great way to exercise the ability to stretch, bend, and reach.

Keep flexibility in mind as part of a broad-based approach to Physical Activity.

Resources

- Mayo Clinic
  - Illustrated guide to basic stretches
- WebMD
  - Guide to stretching
- VA's MOVE! Program
  - Video tutorials on specific stretches, and other exercises

What we know about integrative health care has come to us thanks to the efforts, experiences, and collective wisdom of people from many cultures and backgrounds. We wish to acknowledge all the healers, researchers, patients, and peoples who have informed the content of this tool.

Author(s)

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