



SCLERODERMA FOUNDATION

SUPPORT • EDUCATION • RESEARCH

Stretching Exercises for the Hand and Face

(A video version of this information is available on www.youtube.com/sclerodermaUS)

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Why should people with scleroderma stretch?

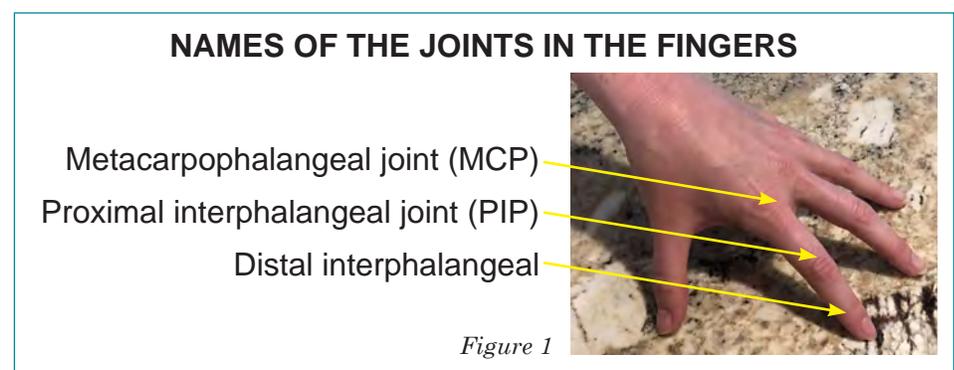
- In scleroderma, there is a build-up of collagen, which is part of the connective tissue that makes up the skin and tendons. With a build-up of collagen, the skin becomes tight and cannot stretch as easily over joints, which results in difficulty moving joints.
- Over time, the joints may begin to feel stiff and the skin may feel ‘tight’. For example, it may become hard to fully make a fist, straighten your fingers, bend your knees and elbows, and open your mouth to floss or brush your teeth. The dentist or hygienist may notice that it is harder to clean or examine your teeth.
- Certain joints in the arms and hands seem to get stiffer and lose motion more than others. This loss of motion in a joint is referred to as a contracture.
- The large knuckle joints, called the metacarpophalangeal (MCP) joints of the hand, can be hard to bend or flex. See Figure 1.
- The smaller joints, the proximal interphalangeal or PIP joints, as shown in Figure 1, can be hard to straighten all the way.
- It may also be hard to bend the thumb or move the thumb away from the hand, as if you are trying to put your hand around a large glass.
- The purpose of stretching or range-of-motion exercises is to prevent or slow down the loss of motion in joints (contractures).
- There are many exercises that you can do on your own to keep your joints from getting stiffer. However, you may want to ask your doctor for a referral to an occupational or physical therapist who can get you started and can set up and monitor your exercise program.

HELPFUL HINTS WHEN STARTING STRETCHING/JOINT RANGE OF MOTION EXERCISES

- Stretching/Range-of-motion exercises for finger joints and other joints must be started early before you see or notice loss of motion.
- Sometimes using heat before doing exercises can help relax the tissues. Heat can include the use of paraffin wax baths for hands or feet, an electric moist heating pad (e.g. the Thermophore), microwaveable hot packs, and warm showers or baths. These heat applications should be warm, but not hot, as you could burn your skin. Use these for 15 to 20 minutes and no longer than half an hour. Instructions for using paraffin are included at the end of the brochure.
- Stretching/range-of-motion exercises should be done frequently (2-3 times/day) and beyond the point where you feel some tightness.

Move the body part until you have the first awareness that the muscle is being stretched and hold it there until you feel the muscle relax.

- Hold the position of stretch where you feel a stretch/pull on the skin or muscles for 5-10 seconds, even if the skin blanches (turns white). Repeat each stretch about 5-10 times.



If you have ulcers on your fingers, it is still important to stretch. Ulcers are very painful, and you may not be able to do as many repetitions, but it is very important to keep the joints around the ulcer moving so that you do not lose more motion while the ulcer heals. Remember to breathe when you stretch.

Specific exercises for the hands

Do each exercise 5 to 10 times and hold each exercise for a count of 3 to 5 seconds.

EXERCISES FOR BENDING THE LARGE JOINTS ON THE FINGERS (metacarpophalangeal joints, MCP)

Exercise 1 helps increase bending in the large knuckle joints of the fingers. Make a fist emphasizing flexion (bending) of the MCP joints.

Use the palm of the other hand to press down on the back of the fingers close to the joint, as shown in picture.



Exercise 1

EXERCISES FOR BENDING ALL JOINT OF THE FINGERS

Exercise 2 helps increase bending or flexion in the middle and last joints of the fingers. Make a fist and try to touch the tips of all fingers to the palm of the hand. Use your



Exercise 2

other hand to help push to try to bend the finger joints. The picture above shows how to do this exercise.

EXERCISES FOR STRAIGHTENING THE MIDDLE JOINTS (PIP JOINTS)

To encourage PIP extension or straightening of the middle joints of the fingers (PIP joints), there are several exercises you can do. If you can almost straighten the middle joints, do exercises 3 and 4 below.



Exercise 3

Exercise 3. Push your hand flat on a hard surface like a table. Try to get the entire surface of all fingers and the palm to touch the table. You can use the palm of one hand to push down on the back of the fingers.

Exercise 4. Place the hands and fingers of both hands flat against each other in a “prayer” position. Try to get the palm sides of the fingers to touch each other all along the length of each finger.



Exercise 4

If your fingers are bent or cannot straighten or if the middle joint of one finger is much more bent than the others, do exercises 5 and 6. These exercises stretch one finger at a time.

Exercise 5. Place your hand flat on the table. Use one thumb to press down on the back of the middle joint of one finger and use the index (pointer finger) to lift up underneath the tip of the finger



Exercise 5

as shown in the picture to try to straighten the middle joint. The finger that you are stretching may turn white. If this happens to you, repeat the stretch with another finger and keep repeating the stretches until you have stretched all fingers. Then start with the first finger and keep repeating until you have done about 3 to 5 stretches with each finger.



Exercise 6

Exercise 6. Another way to do the same exercise for the PIP joint uses 3 points of pressure (see picture). The first point of pressure is the pad of the index finger on the palm side of the finger, just above the PIP joint. The second point of pressure is the pad of the third finger on the palm side of the contracted finger below the PIP joint. The third point of pressure is the thumb against the back of the contracted PIP joint. The thumb pushes against the joint while the index and middle fingers apply counter pressure to attempt to straighten the joint. Repeat until you have done 3 to 5 stretches per finger.

EXERCISES FOR THE THUMBS

**In some people, the space between the thumb and index finger

(webspace) gets tight and it can be hard to hold large objects such as glasses. The next 2 exercises help stretch the webspace between the thumb and index finger, and should be done 5 to 10 times.

Exercise 7. To maintain thumb motion, try to bend the thumb so that the tip touches the bottom of the little finger. Hold for 3 to 5 seconds. If the tip of your thumb cannot reach that far, just make that your goal.



Exercise 7

Exercise 8. To stretch out the thumb away from the hand, place the pads of the thumb and index fingers of both hands together and push the thumbs away from the index fingers and hold 3 to



Exercise 8



Exercise 9
5 seconds.

Exercise 9. Another way to stretch the webspace is to find the largest cylindrical (round) object such as a water bottle, can (soda, soup, spice jar, tomato paste, etc.) that will fit snugly in the webspace. Make sure the object is in contact with all parts of the webspace as in the picture. If there is a gap, the object is too big and you might want to start with a smaller object with the goal of being able to hold the larger one, do 5 to 10 times and hold for 3 to 5 seconds.

EXERCISES TO STRETCH THE SPACE BETWEEN YOUR FINGERS

The spaces between the fingers are also called web spaces and can get tight in people with scleroderma. The two exercises below will help stretch these spaces to make it easier to use a keyboard, play the piano or other instruments or put on gloves.



Exercise 10

Exercise 10. Interlace your fingers and try to slide the fingers all the way down so that the web spaces are touching like in the picture. Hold the stretch 3 to 5 seconds. You can see from the picture that the person cannot slide their fingers all the way down, but that is still the goal.



Exercise 11

Exercise 11. Another way to stretch the web spaces is to put the top of a water bottle between two of your fingers and slide it down as far as the bottle will go and hold it there for 5-10 seconds. You can then slide the bottle in between the next two fingers and so on.

EXERCISES FOR THE WRISTS

Exercise 12 is for straightening the wrist. Turn one hand so the palm is facing up. Then straighten the wrist so the fingers point down to the floor. Take your other hand and try to push on the palm to get the wrist to straighten more and hold for 3 to 5 seconds. Repeat. Then do the other wrist.



Exercise 12

Exercise 13 increases the motion to bend the wrist. Turn one hand so the palm is facing down. Now bend your wrist so your fingers are pointing down to the ground or floor. Use the other hand to push, VERY GENTLY, on the back of the hand for 3 to 5 seconds. Do not push hard or for very long. Repeat with the other wrist.



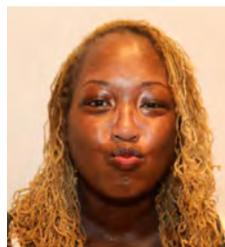
Exercise 13

EXERCISES FOR THE FACE AND MOUTH

These exercises are important for facial expression and teeth and mouth care. Sometimes mouth opening slowly decreases. You might not notice this until you visit your dentist or dental hygienist, who might have a harder time working on your teeth. You may notice that it gets harder to floss your teeth.

The first 4 exercises (14-17) work on stretching the skin on your face and consist of exaggerated facial movements. You can do these exercises in the shower where the warm water may warm and relax the skin.

Do each exercise 5 to 10 times and hold for a count of 3 to 5 seconds.



Exercise 14

Exercise 14

Pucker up your lips like you are going to kiss something or blow out a candle and hold the pucker. Count to 5 to yourself, relax and repeat.



Exercise 15

Exercise 15. Puff out your cheeks with air and hold. Count to 5, relax and repeat.

Exercise 16.

Smile, a real cheesy smile showing off all your teeth. Hold and count to 5, relax and repeat.



Exercise 16

Exercise 17.

Open your mouth as wide as you can and hold. Count to 5, relax and repeat.



Exercise 17

Exercise 18.

Manual stretching uses the fingers to stretch the mouth. The right thumb is placed in the corner of the left side of the mouth while the left thumb is placed in the corner of the right side of the mouth. The mouth is stretched to the sides by the thumbs. Hold for 5 seconds, relax and repeat.



Exercise 18



Exercise 19

Exercise 19. Oral augmentation is an exercise that consists of tongue depressors inserted between the teeth from the left premolar area to the right molar region. The position is held for several seconds. Additional tongue depressors are added as motion increases.

INSTRUCTIONS FOR PARAFFIN WAX

What is needed: Paraffin wax unit, Saran wrap or plastic bags, and terry cloth towels.

Preparation: After you have followed the manufacturer's instructions to melt the paraffin, insert the thermometer; the temperature should read 125/126 degrees F.

If it is too hot, turn temperature down to LOW and test again with thermometer.

When temperature is 125/126 degree F, you are ready.

Treatment: Roll up sleeves of your shirt, remove all jewelry, wash & dry hands.
Spread your fingers apart and slowly put your hands in the wax.

DO NOT TOUCH THE SIDES OR BOTTOM OF THE PARAFFIN UNIT.

Remove hand right away but be gentle.

Count to five and then put hand back in the wax.

Repeat, 5 more times.

Cover your hands with plastic bags and then wrap in a towel.

Wait 20 minutes.

Remove towels. Remove plastic bags and throw away.

Peel the paraffin wax from your hands and return paraffin to unit as it can be used again.

TURN OFF UNIT.

DO HAND EXERCISES WHILE HANDS ARE STILL WARM.

NOTE: DO NOT use paraffin if you have open wounds or cuts on your hands. If this occurs, call your health professional.

When wax in the unit starts to look dirty or no longer white, clean the unit and change the wax.

Paraffin units can be purchased from pharmacies, and discount stores such as Wal-Mart, Target, K-Mart, Costco, Sam's Club or on-line.

The Scleroderma Foundation's mission is three-fold:

- ☞ To help patients and their families cope with scleroderma through mutual support programs, peer counseling, physician referrals, and educational information.
- ☞ To promote public awareness and education through patient and health professional seminars, literature, and publicity campaigns.
- ☞ To stimulate and support research to improve treatment and ultimately find the cause and cure of scleroderma and related diseases.



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