You Can Improve Hand Function in Scleroderma

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Modalities and exercises to improve hand function

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Disclosure

• I have nothing to disclose

Evidence-based Medicine References


Outline

• Assistive devices
• Protection of ulcers during ADLs
• Modalities to manage pain and improve joint motion
• Hand range of motion and stretching exercises

Assistive Devices

• Allow people to perform tasks independently or with less difficulty.
• Compensate for impaired hand function and loss of range of motion.
• Help accommodate ulcers/calcinosis
• Prevent occurrence of Raynaud’s phenomenon
Assistive/Adapted Devices

- Manipulation
  - large handles
  - padded handles

Dressing devices

- Zipper aids
- Button hooks

- Dexterity
  - button hooks

- Reach
  - long shoe horn
  - sock aid

Key holders

- Push button pill organizer
- Open It Medication Bottle Opener
easycomfort.com

- Good grips
- and Oxo

Jar and Can Openers

- JarPop

- Electric toothbrushes, water jets, curved bristle brushes, children’s toothbrushes

ORAL HYGIENE

- Electric toothbrushes
- Electric flosser

- Padded handle
- Toothbrushes for decreased hand dexterity

Protection of Ulcers During ADLs

- Insulate hands from cold, strong detergents, irritating chemicals, and bacteria (wear gloves)
- Avoid tasks that risk fingertip trauma.
- Protect fingertips or ulcers on fingers/tips
  - Splints
  - Jell pads, caps or finger sleeves

From the American College of Rheumatology Image Bank
Other Ideas to Protect Finger Ulcers

- [http://www.originalguitarfingers.com/Products.html](http://www.originalguitarfingers.com/Products.html)

Protection of the Hand/Ulcers during keyboarding

- Voice activated
- Stylus for touch screens
- Keyboard aids
- Touch screen keyboard

Education for Raynaud’s Phenomenon

- Insulate hands from cold, strong detergents, irritating chemicals, and bacteria (wear gloves)
- Dress warmly to insulate body
- Chemical hand warmers
- Gloves for touch screens
- Avoid cold temperatures

Ideas for the computer

- [www.coldhands.me](http://www.coldhands.me)
- Insert chemical heat packs into wrist bands or wristies

POSSIBLE CAR SOLUTIONS

- Remote car starters
- Heated seats or covers
- Accessible Parking

Avoid Static Positioning Causing Potential Compression

- Avoid resting phone/ipad on surface of finger/s
Modalities to Help Manage Pain and Increase Joint Motion

- Heat modalities
  - Moist heat
    - Paraffin bath
    - Hot packs
  - Dry heat
    - Fluidotherapy
- Massage
  - Connective tissue massage
  - Manual lymph drainage

Paraffin Wax

Paraffin increases tissue extensibility, decreases pain, and adds moisture to the skin
- 120-130° degrees
- do NOT use with open sores
- keep on 15-20 minutes
- place dipped hands in plastic bags
  - wrap in heavy towels or place in oven mitts

Heat/Hot Packs

Fluidotherapy

Dry heat

Massage

Connective Tissue Massage
(connective tissue massage
(a deep stretching massage)

Manual Lymph Drainage
(a mobilizing massage to move fluid)

Range of motion / stretching exercises

- Purpose is to prevent or slow down development of contractures
- Do frequently and beyond resistance
- Maintain position of stretch 3-5 seconds even if skin blanches or turn white
- Should be started before there is any noticeable loss of motion

Range of Motion Exercises for MCP Flexion

- Make a fist – heel of one hand may need to press on back of proximal phalanx of the other hand
Range of Motion Exercises for PIP Joint

- Push hand flat
- Press fingers against each other
- Use three points of pressure

Range of Motion Exercises for Thumb

- Abduction
- Flexion

Exercise for other hand joints and the wrist

- Webspace Stretches
- Composite Stretch
- Wrist extension and flexion

Interlace fingers and try to slide fingers all the way down so that web spaces are touching

How to monitor the motion in key hand joints

- Draw a hand out line to help monitor finger extension

Templates to monitor MCP flexion

- Find the largest size object that will fit in the web space with all sides of web space touching object

Thumb abduction

- Gap; object too large
Dexterity Exercises

Chinese health balls or qi gong balls (come in smaller sizes), could also manipulate ball of paraffin wax after removing the paraffin glove from the hand.

Manipulating coins and other objects

Conclusions

• Heat and massage can be done before exercises to warm up tissues.

• Range of motion exercises should be aggressive and started before obvious deformities.

• Range of motion exercises should be done even with ulcers ALTHOUGH, modify the exercises.

• Assistive devices and alternative techniques should be investigated to help with function, protect ulcers and prevent Raynaud’s.