



**Self
Management
Program**



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Management
Program**

**DeRoyal SelfCare™
Wrist, Hand and Finger —
A Patient's Self Help
Recovery Guide**



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**Carpal Tunnel
Syndrome,
Arthritis and
Wrist Fractures**

What's Inside?

This is a self recovery guide for some very common wrist, hand and finger injuries. These include carpal tunnel syndrome, arthritis and fractures of the wrist.

Carpal Tunnel Syndrome...page 2

This section of the self recovery guide focuses on carpal tunnel syndrome. This section will give you a better understanding of what carpal tunnel syndrome is as well as the causes and symptoms. Also included are the steps to take to reduce the symptoms of carpal tunnel syndrome.

Arthritis Recovery Guide...page 6

This section focuses on the two main types of arthritis: Rheumatoid and Osteoarthritis. The purpose is to provide you with a better understanding of both types of arthritis and the causes of each. You will also be given steps to control the pain and reduce inflammation resulting in a more independent lifestyle.

Wrist Fractures...page 13

This section focuses on two common fractures to the wrist area: colles' and scaphoid. This section will give you a better understanding of these types of fractures and explain some common causes. You will also be given some treatment options and learn some exercises your doctor may recommend.

6. Wrist Extension Stretch

Sitting with elbows on table and palms together, slowly lower wrists to

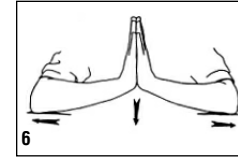
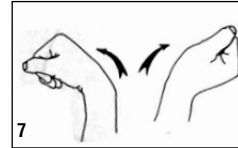


table until a stretch is felt. Be sure to keep palms together throughout the stretch.

Hold ___ seconds. Relax.
Repeat ___ times.
Do ___ sessions per day.

7. Wrist Flexion/Extension

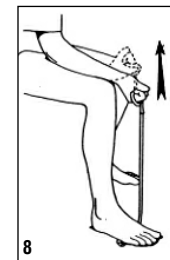
Actively bend wrist forward then backward as far as you can.



Hold ___ seconds. Relax.
Repeat ___ times.
Do ___ sessions per day.

8. Active Resistive Wrist Flexion

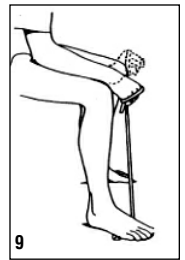
With tubing wrapped around fist and opposite end secured under foot, bend wrist up (palm up) as far as possible.



Hold ___ seconds. Lower slowly, keeping forearm on thigh. Relax.
Repeat ___ times.
Do ___ sessions per day.

9. Active Resistive Wrist Extension

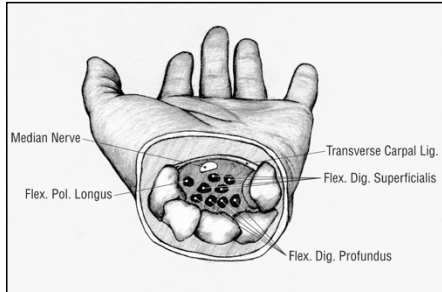
With tubing wrapped around fist and opposite end secured under foot, bend wrist up (palm down) as far as possible.



Hold ___ seconds.
Lower slowly, keeping forearm on thigh. Relax.
Repeat ___ times.
Do ___ sessions per day.

What Is Carpal Tunnel Syndrome?

Carpal tunnel syndrome is compression of the median nerve (one of the main nerves of the hand). Symptoms of carpal tunnel syndrome can include numbness, pain or tingling in the thumb, index, long and ring finger. Other problems can also include: weakness, clumsiness or swelling of these fingers and thumb.



Causes?

Carpal tunnel syndrome appears to occur in people who are prone to have swelling or inflammation in their hands.

At the wrist, the median nerve lies in a tunnel (the carpal tunnel), along with nine tendons which allow the fingers to bend. When the tendons become irritated, the tendon lining becomes swollen. Since space is very limited in the carpal tunnel, swollen tendons take up room and put pressure on the median nerve, cutting off its blood supply.

Symptoms?

In the early stages of carpal tunnel syndrome, symptoms (including numbness, tingling, swelling or pain) occur during sleep. During waking hours, fluid is pumped out of the hand and carpal tunnel by normal activity.

Bending the wrist, especially during repetitive activities or prolonged gripping, may also cause symptoms. In the advanced stage, symptoms will also occur during waking hours. Prolonged nerve irritation will eventually cause weakness in the hand and a loss of grip strength.

TREATMENT RECOMMENDATIONS

What should I do about mild to moderate pain?

Your goal is to reduce symptoms by reducing compression of the median nerve. Listed below are several ways you can do this



conservatively. Two out of three people who suffer from carpal tunnel syndrome will experience improvements using these conservative, non-surgical treatments. However, surgery may be recommended for

Patient Name: _____
 Perform the following
 _____ per day for _____ weeks
 or
 until _____

Further Instructions:

Contrast Baths

1. Prepare 2 pans: one warm water, approximately 105-110° F and one cool water 59-68° F.
2. Immerse your hand and wrist in the warm water for 10 minutes.
3. Immerse your hand and wrist in the cold water for 1 minute.
4. Immerse your hand in the warm water for 4 minutes.
5. Immerse your hand in the cold water for 1 minute.
6. Repeat steps 4 and 5 two (2) times, then end in warm water for 4 minutes.

Elevate

Elevate hourly above the heart with active fisting.

With any injury or medical condition, it is advisable to consult a physician or other medical professional before beginning any treatment or rehabilitation program. DeRoyal strongly recommends that you contact your physician immediately if you experience any of the following symptoms:

- Numbness or tingling in your wrist or hand
- Cold or discolored fingers
- An increase in swelling
- Pain that does not ease with rest

EXERCISES

Refer to end of booklet.

Additional Instructions:

COLLES' FRACTURE

What is a Colles' Fracture?

One of the most common fractures of the wrist is a Colles' Fracture. This is where there is a break in the radius bone at the end of the forearm bone on the thumb side of the hand. (Distal radius fracture)



Causes?

A Colles' Fracture usually occurs as a result of a fall on an outstretched arm, forcing the hand backwards and upwards. The radius bone has a flare shape as it joins the wrist. Fractures occur here because this is a natural weak area.

SCAPHOID FRACTURE

What is a Scaphoid Fracture?

Another common fracture of the wrist is a scaphoid fracture. The scaphoid bone is one of eight small bones in the wrist.



Causes?

A sudden force that has caused the hand to bend backward, if strong enough, can cause a

wrist fracture. Common causes of scaphoid fractures include falls and motor vehicle accidents.

Scaphoid fractures can have unpredictable or delayed healing. Delayed healing can occur because the fracture can cut off the blood supply to the bone. Healing time can vary between 6-12 weeks.

TREATMENT OF WRIST FRACTURES

Treatment varies depending on the type of break. Your doctor's recommendations may include any of the following:

- Wearing a brace or cast.
- Specific exercises for the wrist, fingers and thumb.
- Ice.
- Elevation.
- Rest.
- Surgery to set the break. This may include open reduction, internal fixation, which involves pins and screws.

Braces or Cast?

The type of break will dictate what treatment your doctor prescribes for you. If you have been prescribed a brace, your doctor will advise you of your wearing schedule. As your fracture heals, you will be weaned from the use of your brace.



There are two main types of arthritis:

Rheumatoid Arthritis, which is a medical condition whereby the immune system attacks and causes damage not only to the joints but also to other parts of the body, and Osteoarthritis, which is wearing away of the joint cartilage that covers the surface of a joint.

WHAT IS RHEUMATOID ARTHRITIS?

Rheumatoid Arthritis is a chronic, systemic (affecting many parts of the body), inflammatory disorder that results in symmetrical, progressive joint destruction and deformity. The process appears to originate in the synovial membrane which secretes lubricating fluid (synovial fluid) into the joint. The thickening of the synovial fluid erodes articular cartilage, bone, tendons, ligaments and the joint capsule. This in turn causes deformity, pain and disability. Common joints in the wrist and hand affected by Rheumatoid Arthritis include the big knuckles of the fingers and thumb and the wrist bone on the small finger side.

Causes?

It is not currently known why some people develop Rheumatoid Arthritis. However, it is known that it is more common for women between the ages of 25 and 35 to develop Rheumatoid Arthritis than the general population.

What should I do about mild to moderate pain?

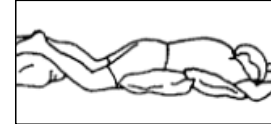
- Rheumatoid Arthritis is primarily a medical condition treated with prescription drugs.
- Wearing splints or braces for the hands and wrist can help reduce pain and increase function.
- Modifying activities or "work simplification" can maintain function longer and reduce pain.
- Learn to carry out joint protection techniques.
- Use assistive devices to help you with everyday activities.
- Joint replacement surgery is an option when conservative treatment no longer provides relief.

**WHAT IS OSTEOARTHRITIS?**

Osteoarthritis is generally characterized by degenerative changes in the joints. It is the most common form of arthritis in which one or many of the joints undergo degenerative changes. Typically, there is loss of joint cartilage which protects the bone surface. This degeneration results in inflammation, pain and a loss of joint motion. In the hand, osteoarthritis typically affects the small joints of the fingers and the joint at the base of the thumb, where the thumb joins the wrist.

Stomach Lying

1. In general, this is not the best position because it puts too much pressure on the neck.
2. Put 2 to 3 pillows under hips and lower chest.
3. Put a pillow under your feet.
4. Put a small, soft pillow under your upper chest and the front of your neck.

**EXERCISES**

Refer to end of booklet.

Additional Instructions:

- Use lightweight tools.
- Keep work heights comfortable at elbow level.
- Correct your posture – stand tall and don't slump.
- Always sit when possible to work or perform daily tasks.
- Use the unaffected extremity when possible to do a job.
- Use elevated toilet seats and grab bars if necessary.
- Use both hands for difficult jobs especially when lifting items.
- Slide or wheel heavy and large objects.
- Push objects with the palm of your hand.
- Change positions frequently.
- Plan your work.
- Get a good night's sleep.
- When dusting or wiping, wipe in the direction of the thumb.
- Keep hands flat when dusting.



Kitchen and Meal Preparation

- Push down on dishcloth to wring out instead of twisting it.
- Arrange your kitchen to eliminate unnecessary steps.
- Pick up pots and pans with two hands, using your palms. Let your strong wrists and elbows do the work.



- Arrange items so they are within your reach. Move less used items to less accessible shelves.
- Maintain proper working heights.
- Use a lazy susan.
- Immerse dishes under water when washing to reduce the weight of the dishes or use a dishwasher.
- Use an electric knife if possible.
- Use an automatic chopper or food processor for chopping.
- Baking may be the easiest way to prepare foods.
- Install pegboards on walls next to stove area to hold utensils. **Caution:** Position carefully away from stove burners due to flammability concerns.
- Assemble all needed supplies and utensils before beginning to cook.
- Spread tasks over the day and do as much as you can ahead of time.
- Open jars with flat palms.
- Slide heavy dishes and trays of food rather than picking them up.
- Use a cutting board with suction cups at the bottom.
- When stirring, stir in the direction of your thumb.



Bedroom and Bathroom Ideas

- Raise your bed to avoid bending and straining your back.
- Move bed away from the wall if it will improve accessibility.
- Do not open sheets up in the air. Place on the bed to unfold.
- Use fitted sheets that go on easily.
- Use grab bars, bath benches and raised toilet seats for added safety.
- For convenience, try bath pillows and long-handled sponges.
- Use mops to clean floors and long handled brushes to clean bathroom rather than cleaning from a hands and knees position.



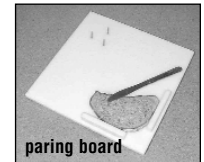
Laundry Ideas

- Do not wring out clothes by twisting them. Put in washer on the spin cycle to wring out or lay flat and push down on garment using whole hand and body weight to push water out of the clothes.
- Utilize a dryer whenever possible.
- Use whole arm movements to smooth sheets, fold and smooth laundry.
- Keep dirty clothes in a bag hanging on the wall or somewhere raised to decrease bending.
- Sit to iron or fold clothes.

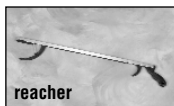
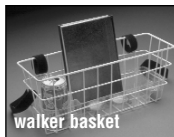
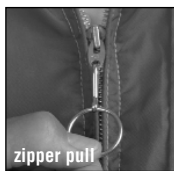
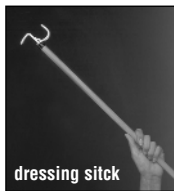
Ergonomic Design and Assistive Devices

Reduce the effort required in activities of daily living by using adaptive/assistive equipment. Equipment is a worthwhile expenditure if it helps to protect your joints. Many devices are suggested, not just because it makes it easier for you, but in order to protect your joints and maintain their function. Examples include:

- Soft built-up handle utensils
- Suction holders
- Foam padding to build up hands for grip
- Jar lid openers
- Portable electric can opener
- Apron hoop
- Long oven mitts
- Paring board with corner guard, suction cups and two stainless steel "holding nails"
- Pan holder and strainer
- Vegetable peeler with horizontal handle
- Suction brush
- Suction bottle-glass brush
- Key holders
- Door knob extensions
- Furniture extenders
- Mobile stool
- Shower chair
- Long scrub brush
- Raised toilet seat
- Extension comb and brush



- Wire frame book holder
- Pen and pencil grips
- Sock and stocking aid
- Extension sock-aid
- Long-handled shoe horn
- Elastic shoe laces
- Dressing stick
- Button hole aids
- Zipper pulls
- Utility carts
- Spray can lever
- Stabilizing mat
- Car door opener
- Grocery bag grip
- Swedish knife (horizontal handle)
- Soft drink tab grabber
- Lamp switch extension
- Special writing devices
- Walker basket
- Pill splitter
- Oven door push/pull
- Multi-purpose turning handle
- Box top opener
- Pill cap opener
- Portable chair cushion
- Reacher



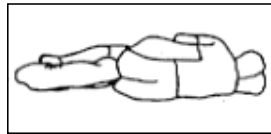
PROTECTING JOINTS WHILE SLEEPING

Sleeping positions are very important when you suffer from Rheumatoid Arthritis or Osteoarthritis. You need to rest in a comfortable position at night so that your body can recover from the day's activities.

Try to stay in the same position you normally sleep in, but modify it to be more "neutral", meaning that your body is well supported with very little strain on one body part. The following illustrations demonstrate a neutral position:

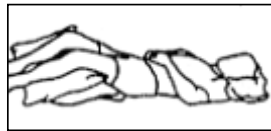
Side Lying

1. Sleep with your painful side up.
2. Put thick pillows between your legs from groin to feet.
3. Place a pillow under your affected extremity.
4. Put a towel roll at your waist.
5. Your head pillow holds your head midline.



Back Lying

1. Put a small pillow comfortably under your head, fluffy under neck.
2. Put fat pillows under your legs to position your knees higher than your hips.
3. Put one fat pillow under the painful extremity.



Causes?

Several factors play a role in developing Osteoarthritis. These factors include: the aging process, heredity, wear and tear from aging and trauma.

What should I do about mild to moderate pain?

- Wearing splints or braces for the hands and wrist can help.
- Modifying activities or "work simplification" can maintain function longer and reduce pain.
- Use assistive devices to help you with everyday activities.
- Joint replacement surgery may be recommended when conservative treatment no longer provides relief.
- Use heat (such as a heating pad or warm bath) in the morning to begin the day. Five minutes should be enough.
- Use ice on swollen, tender areas. Do this for approximately 20 minutes, 2-4 times per day.
- Take over the counter non-steroidal anti-inflammatory medication. These include aspirin, ibuprofen, etc. (check with doctor or pharmacist about drug interaction and side effects)
- A cortisone shot into the sore area may provide temporary relief (up to a couple of months).

- Occupational and physical therapy may be recommended for range of motion strengthening.

Splints

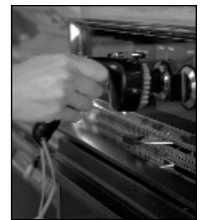
There are many splints that are used in the treatment of pain and discomfort caused by both Rheumatoid and Osteoarthritis. The goal of wearing a splint includes: decreasing or relieving pain, preventing further deformity, protecting the already damaged joint and maintaining proper alignment.

WORK SIMPLIFICATION (Modifying Activities)

The goal in modifying activities or simplifying work is primarily to do activities in such a way as to protect the joint from further deformity. Here are some ideas for making your home more manageable while protecting your joints:

General

- Avoid repetitive activities and strenuous work.
- Do not grip objects too tightly and avoid prolonged gripping.
- Use assistive devices to help you open and turn things.
- Place palm of hand on jar lid and using the weight of your body, turn arm at shoulder to open jar. Use left hand to close and right hand to open.



Section **3**

**Wrist Fractures
Self-Recovery
Guide**

Goal:

Promote the proper healing environment for a quicker recovery

Section **2**

**Arthritis
Self-Recovery
Guide**

Goal:

Control pain, reduce inflammation and get back to an independent lifestyle.

Your brace may be removed as specified by your doctor for exercise and light activities of daily living.

Refer to "Work Simplification (Modifying Activities)" in the previous section.

EXERCISES

Wrist and finger stiffness is very common following a wrist fracture. Therefore, it is important to follow an exercise program to help in a speedy recovery. Your doctor will advise you if these exercises are appropriate for your wrist fracture.

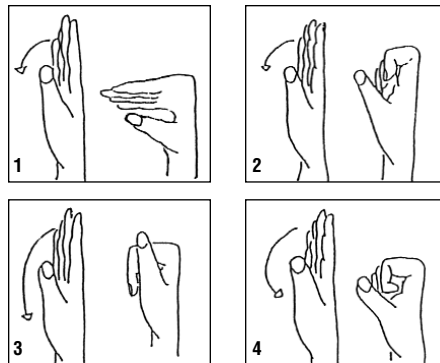
Patient Name: _____

Perform the following exercises
_____ per day for _____ weeks
or
until _____

Further Instructions:

For this section of exercises, keeping the hand elevated above the heart helps to reduce swelling. Exercise should be done for short periods of time and done often. Pain is a warning sign. Your hand may be very sore following exercise sessions. All exercises should be pain free.

1. Open the hand. Holding fingers straight, bend at the first knuckle.
2. Open the hand. Reach the fingertips toward the base of the fingers.
3. Open the hand. Reach the fingertips toward the base of the thumb.
4. Open the hand. Reach the fingertips toward the middle of the palm.



Ice

Cold therapy can be used in cases of wrist fractures, typically in the form of contrast baths. Your doctor will advise you if this is appropriate for your type of fracture.

patients who have evidence of nerve damage.

- Wearing a splint or brace while sleeping and while performing daily activities.
- Modifying activities using pain and numbness as a guide.
- Taking over the counter non-steroidal anti-inflammatory medication. These include aspirin, ibuprofen, etc. (check with doctor or pharmacist about drug interaction and side effects)
- Contrast baths. (Refer to page 16.)
- Ice.
- Occupational or physical therapy.
- Studies indicate taking 100mg of vitamin B6 daily can help. (Before taking, check with your doctor if you are pregnant.)
- An effective non-operative treatment may be a cortisone shot into the carpal tunnel. Sometimes this provides long term relief.

SUPPORTING THE WRIST

Wrist splints are used as treatment for pain and discomfort of carpal tunnel syndrome. A wrist splint provides support, allowing your wrist to rest in a neutral position. Bending your wrist can put more compression on the median nerve as it



travels through the carpal tunnel. It is also important to avoid strapping the splint too tight.

The wearing of a wrist splint is recommended during the night to prevent the wrist from bending. Daytime wearing is only recommended when experiencing pain or decreased sensation. This may only occur during certain activities or in a variety of activities. If you find you are wearing the brace for extended periods during the day, it is advisable to remove the brace one or two times per day and perform wrist range of motion activities to maintain flexibility of the wrist.

REST

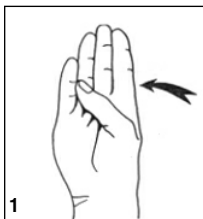
It may be necessary to rest the hand and wrist if pain persists despite wearing a brace and modifying activities. Keeping the wrist in a neutral position, elevate the hand and wrist such that the hand is higher than the elbow. This can be easily achieved by placing the hand on a pillow and allowing the elbow to rest on a lower surface.

EXERCISES

These exercises may be prescribed by your physician for carpal tunnel, arthritis or fractures.

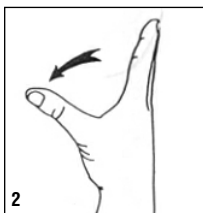
1. Thumb Flexion/Extension

Actively bend thumb across palm as far as you can. Hold ___ seconds. Relax. Then pull thumb back into "hitch hiking" position.



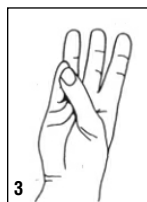
2. Thumb Abduction/Adduction

Actively bend thumb out away from palm as far as you can. Hold ___ seconds. Relax. Then pull thumb back to touch fingers. Try not to bend fingers toward thumb. Repeat ___ times. Do ___ sessions per day.



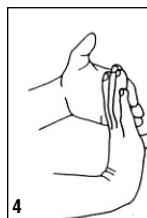
3. Finger Opposition

Actively touch thumb to finger tip. Starting with index finger and proceed toward little finger. Move slowly at first, then begin to move rapidly as your motion and coordination improve. Be sure to touch each finger tip. Hold ___ seconds. Relax. Repeat ___ times. Do ___ sessions per day.



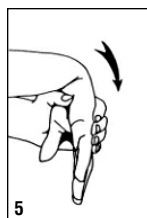
4. Wrist Flexor Stretch

Keeping elbow straight, grasp involved hand and slowly bend wrist until a stretch is felt. Hold ___ seconds. Relax. Repeat ___ times. Do ___ sessions per day.



5. Wrist Extensor Stretch

Keeping elbow straight, grasp involved hand and slowly bend wrist down until a stretch is felt. Hold ___ seconds. Relax. Repeat ___ times. Do ___ sessions per day.



Section 1

Carpal Tunnel Syndrome Recovery Guide

Goal:

Control pain, reduce inflammation and swelling, and protect the injured wrist.