

What is Dupuytren's Contracture (DC)?

DC is a progressive disabling disorder that results in the thickening and shortening (contracture) of fibrous bands on the palm and fingers in the form of nodules. The nodules that develop are located just below the metacarpophalangeal joints (MCP), are painless in most cases, and initially develop in the crease closest to the ring and little finger. As the disorder progresses, the nodule evolves into fibrous cords that extend under the skin of the palm into the finger, drawing the finger towards the palm.

Progression of Dupuytren's Contracture

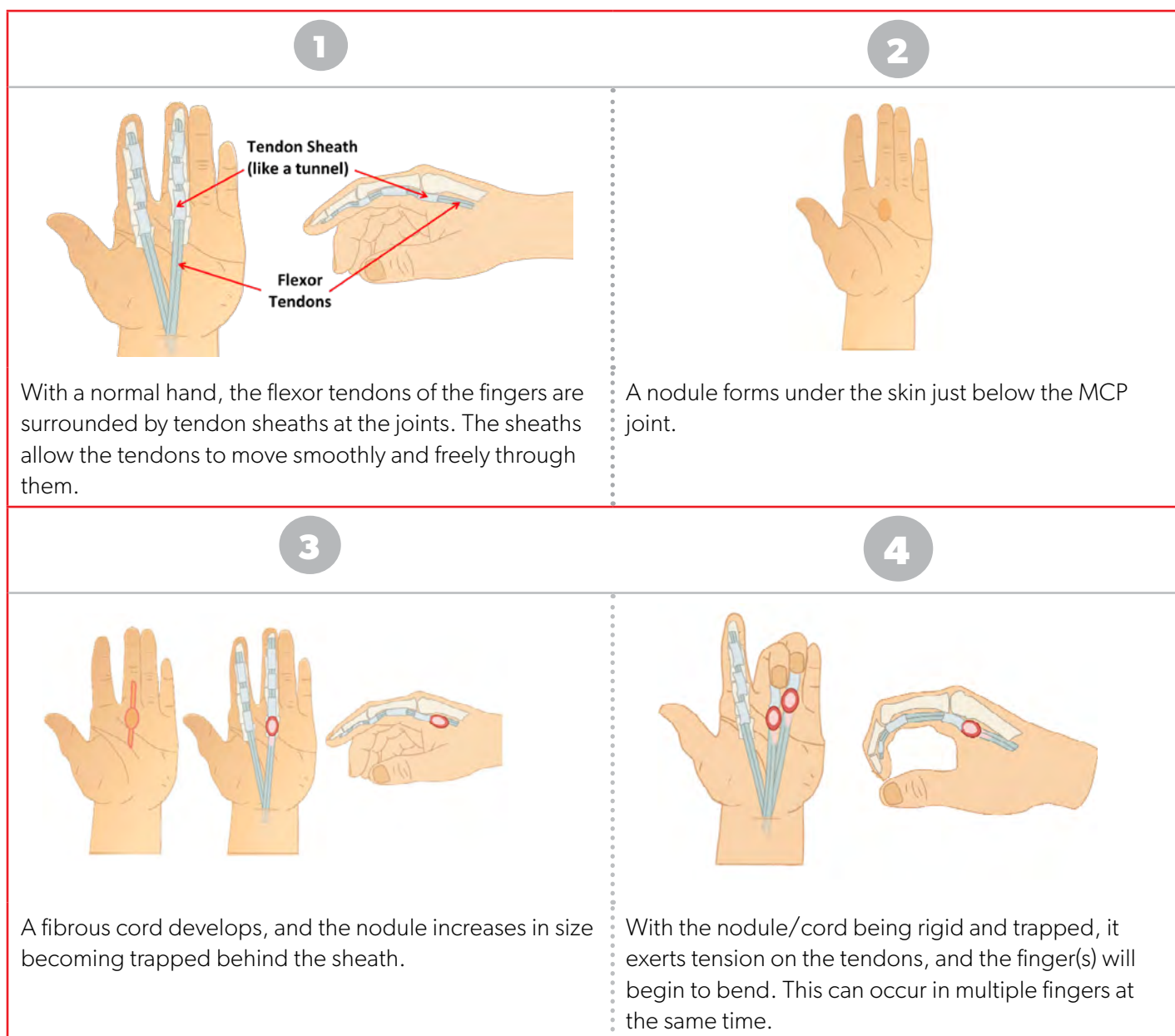


Figure 1: Progression of DC.

Ergonomic Risk Factors



FORCE

- Acute Injury/Trauma - penetrating wounds, crush injuries, and fractures
- Forceful exertion – prolonged gripping
- Mechanical Stress, Contract Stress
- Glove Use
- Grip Type



INADEQUATE RECOVERY TIME

- Similar muscle actions performed multiple times in a short period
- Sustained muscle contractions without enough rest
- May lead to fatigue, weakness or altered movement patterns



TEMPERATURE

- Cold temperatures have been linked to the development of DC by affecting nerve conduction, blood circulation, manual dexterity, and grip strength



VIBRATION

- Extended vibration exposure is linked to abnormal tendon function



COMBINATION EFFECT

- Many or all of the risk factors act in synergy to increase the risk of developing DC

Specific Recommendations for Prevention

- Avoid contact/mechanical stress where possible
- Maintain neutral hand/wrist postures
- Minimize forceful grasps
- Monitor use of gloves that may affect force required
- Avoid prolonged exposure to vibration
- Evaluate tool handle design options

For industry/workplace specific recommendations contact an OHCOW Ergonomist.

Additional Resources and Tools

[Dupuytren's Contracture Webinar \(OHCOW\)](#)

[Dupuytren's Contracture Webinar Handouts OHCOW\)](#)