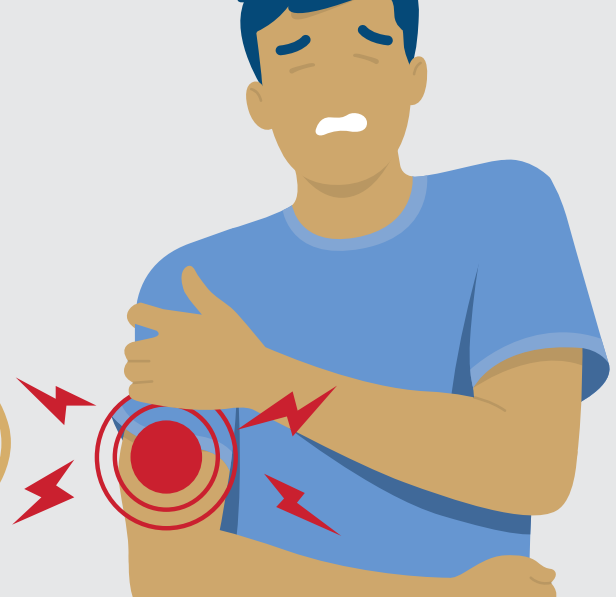# UPPER-EXTREMITY DEEP VEIN THROMBOSIS (UEDVT)

Paget-Schrotter or Paget von Schrötter Disease

WHAT IS A UEDVT

A **deep-vein thrombosis (DVT)** happens when a thrombus (clot) forms in the deep veins. This is usually in the legs and thighs, but can sometimes happen in the upper arm, abdomen, or pelvis. **Upper-extremity deep-vein thrombosis (UEDVT)** is due to a clot forming in the deep veins of the arms, usually in the axillary or subclavian veins. The condition is relatively rare and usually happens in young and otherwise healthy patients. It appears to affect men more than women.

SYMPTOMS OF UEDVT

Symptoms may include sudden pain, warmth, redness, blueness and swelling in the arm.

CAUSES OF UEDVT

Mostly these thromboses are due to pressure on the veins as they leave the arm or shoulder.

Thoracic outlet syndrome (TOS) – is when the ribs press against the veins and nerves.

A history of injury or heavy exercise to the upper body, also known as 'effort-induced thrombosis', which can develop after vigorous activity, especially in swimmers and throwers.

THORACIC OUTLET SYNDROME (TOS)

Thoracic outlet syndrome (TOS) is a condition caused by the nerves or the vein and artery that emerge from the chest at the root of the neck being pressed on by the ribs.

The commonest symptoms are pain or numbness along the shoulder and the back or front of the upper arm, as well as pins and needles over the fingers. The arm and hand may also be cold. Sometimes the pain may spread to the back of the neck and the base of the head. If the vein is squashed, this can lead to a blood clot forming in the vein and your arm may have a bluish tinge, prominent veins, be painful and sometimes become swollen, hard and painful – a condition called thrombophlebitis.

If the artery is squashed, the blood supply to the arm will be reduced. The symptoms can include a cold hand, pain in the fingers and pain when using the arm.

If the artery becomes blocked, the symptoms become severe and permanent. In either of these cases, you will need urgent medical treatment.
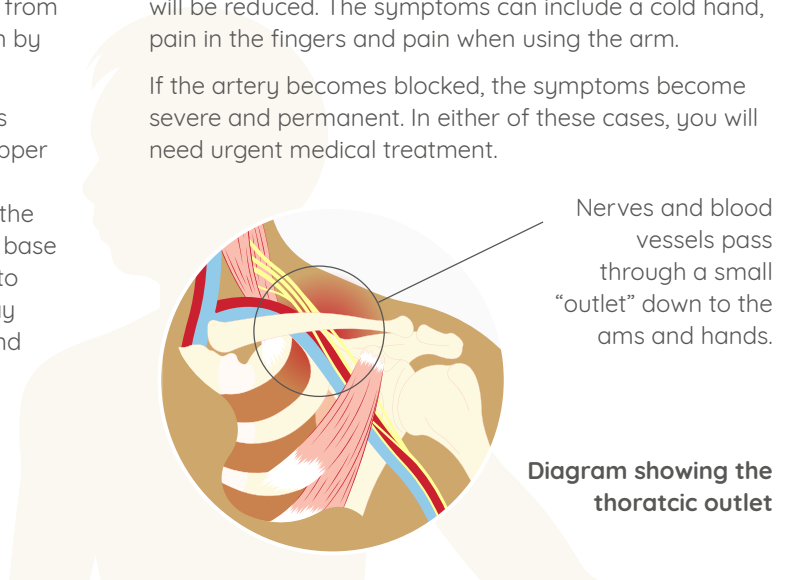
Nerves and blood vessels pass through a small "outlet" down to the ams and hands.

Diagram showing the thoratcic outlet

CERVICAL RIBS

In some cases, when a person has a UEDVT the cause is due to cervical ribs. Cervical ribs are caused by a congenital abnormality and mean there are extra ribs which grow from the lowest cervical (neck) vertebrae. However, they don't always cause thoracic outlet syndrome (TOS). No more than 10% of people who have cervical ribs develop thoracic outlet syndrome. It has a slightly higher incidence in women than in men, although this is thought to be less than a 1% difference.

A fibrous band may also extend from the cervical rib to the first rib, causing an extra bend in the lower part of the brachial plexus (the big nerves supplying the arm) which produces pressure in this region and affects the blood supply to the subclavian vein and artery. The restriction of the blood supply this causes can mean a deep-vein thrombosis can form in the arm.

Investigations

Investigations to confirm cervical ribs or other things that might press on the veins, nerves and artery supplying the arm may include x-rays, a Doppler, CT or MRI scan and, less commonly, angiography and venography.

Treatment

If you have a DVT, treatment can be given to dissolve the clot and reopen the vein as long as this is given soon after the clot has formed (within two weeks). After this time, you will need to use blood thinners temporarily. After a DVT or when symptoms are caused from the artery or nerves being squashed, treatment involves removing the obstruction by surgery (this is usually done by a vascular surgeon). The aim of surgery is to make the space at the thoracic outlet bigger by removing the cervical or first rib and reducing the chance of suffering another thrombosis.

X-ray confirming cervical ribs