

# What do swollen feet, urinary tract infections, dehydration and heart disease have in common?

written by  
Tessa Jupp RN

The answer is **potassium deficiency** and I have had a few enquires from people with these complaints lately. However solving these problems is a bit more complicated.

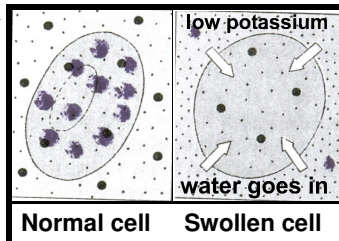
For polios this is particularly important because potassium deficiency can also cause muscle weakness, fatigue, mental confusion, irritability, general weakness, heart problems, poor nerve conduction and poor muscle contraction.

Dietary potassium deficiency is typically caused by a diet low in fresh fruits and vegetables but high in sodium ie take-away and processed foods. It is more common to see dietary potassium deficiency in the elderly. Less commonly it is due to excessive fluid loss (sweating, diarrhoea, vomit or frequent urination as in diabetes) or the use of diuretics, laxatives, aspirin, and other drugs and alcohol.

Over 95% of potassium in the body is found within the cells

In contrast, most of the sodium (salt) in the body is located outside the cells in the blood and intracellular fluids. Cells actually pump sodium out and potassium in via the "**sodium-potassium pump**". This pump is found in the membranes of all cells in the body. One of its most important functions is preventing the swelling of cells. If sodium is not pumped out, water accumulates within the cell causing it to swell. Potassium and magnesium should be higher inside the cell. If there is not enough potassium to 'chase' the extra sodium out again, sodium invites water in and so it become swollen

The sodium-potassium pump also maintains the electrical charge in the cell for muscle and nerve function. Potassium is also essential for the conversion of blood sugar into glycogen for energy storage without which we have fatigue and muscle weakness.



## Problems due to low potassium levels

Swollen feet, ankles , legs	Palpitations / irregular pulse
Urinary tract infections	Muscle weakness
Continuous thirst (dehydrated)	Heat drains energy levels
Cramps & muscle aches	No reserve to fall back on
Vertigo, light-headed	Mental confusion, irritability

Since 2009 a doctor's script is required to get potassium. If you are not able to get a script for **Slow-K** you need to look at dietary sources. **Bananas** give a little but potato skin is the best source. **Potato peel** can be boiled into a soup for potassium. Always use your vegetable water to make a quick soup (mash and puree vegies back into water and add onion and stock cube for **instant soup**.) Or use vegie water to make white sauce or gravy or just drink it!

## Potassium Broth

Wash (but don't scrub) and chop unpeeled 4 large potatoes 3 carrots, 4 celery sticks, parsley, a peeled onion and some mixed herbs. Boil in 4.5 litres water for 30 minutes. Mash and puree vegies back into the water. Add stock cubes and sea salt to taste. Have a cupful hot/cold once or twice a day

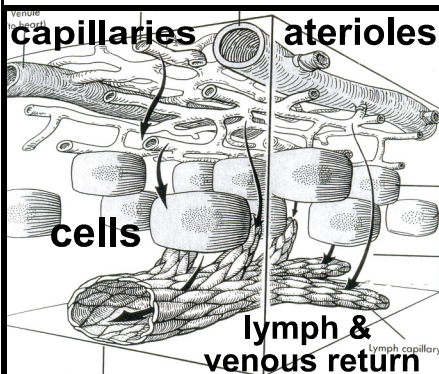
Useful for urinary infections, kidney stones, hot flushes, swelling, diabetes, high blood pressure, palpitations.

**NB** If palpitations develop after using this soup you probably have high potassium so stop. You can get palpitations if potassium levels are too low or too high. Be careful if taking blood pressure meds, esp ACE inhibitors.

**Taurine and Vitamin B6** also help to **reduce swelling**.

**Elevate your feet** when sitting and try to get **8 hours sleep**.

## Low Vitamin B1 (thiamine) also causes swelling



Another type of swelling is caused when low Vitamin B1 causes blood vessels to dilate and leak fluid into the tissues (ie the space around the cells). In this diagram (left) you can see small and large blood vessels at the top allowing fluid and nutrients to pass to the cells before being collected by lymph and veins to return to the heart. If there is too much fluid in the tissues it becomes

swollen, uncomfortable, more likely to ulcerate and heals poorly.

A scratch on the leg is likely to leak clear fluid for days if in the tissues.

Loss of fluid volume in the blood (dehydration) can increase blood pressure and put a strain on heart and lung function. See right, shows all the areas of the body that can be affected by swelling due to low Vit B1. This was called wet beri-beri. It is solved by taking **4-6 Vit B1 x 250 mg** tablets daily. If magnesium levels are low then Vit B1 can drop. When B1 is low then potassium falls. To restore potassium, first magnesium levels need to be increased. With diabetes both potassium and B1 are likely to be low. Insulin resistance can be reversed by fixing potassium.

