

## Assessment of within and between subject biological variability of salivary potassium in patients with chronic kidney disease

People living with chronic kidney disease (CKD) are at risk of high blood potassium levels as potassium is usually removed from the body by the kidneys. High potassium in the body can lead to potentially fatal heart rhythm abnormalities and so blood potassium monitoring is undertaken whenever someone has their kidney function blood tests.

Probably the most important aspect of high blood potassium is that the risk of it happening can prevent people being given important medicines that improve cardiovascular health outcomes in CKD. These drugs are generally known as ACE inhibitors, ARBs, and MRAs and can all cause high potassium. They are probably the most important medicines we give in CKD care so safely monitoring potassium levels is very important if we are to optimise the number of people on them.



Potassium is found in saliva and so saliva collections have the potential to be used to measure potassium in the body without needing to attend for a blood test. A small scoop can be placed in the mouth to collect saliva without causing discomfort. The picture shown is an example and is approximately how big the scoop is in real life. We will compare three different devices to establish which is most accurate and which patients prefer to use.

The study being proposed will test the accuracy of salivary potassium compared to blood potassium and will see whether the results are consistent by making this comparison in people with different stages of CKD, different co-existent illnesses such as diabetes, and by doing the test twice in the same person (e.g. left and right cheek).