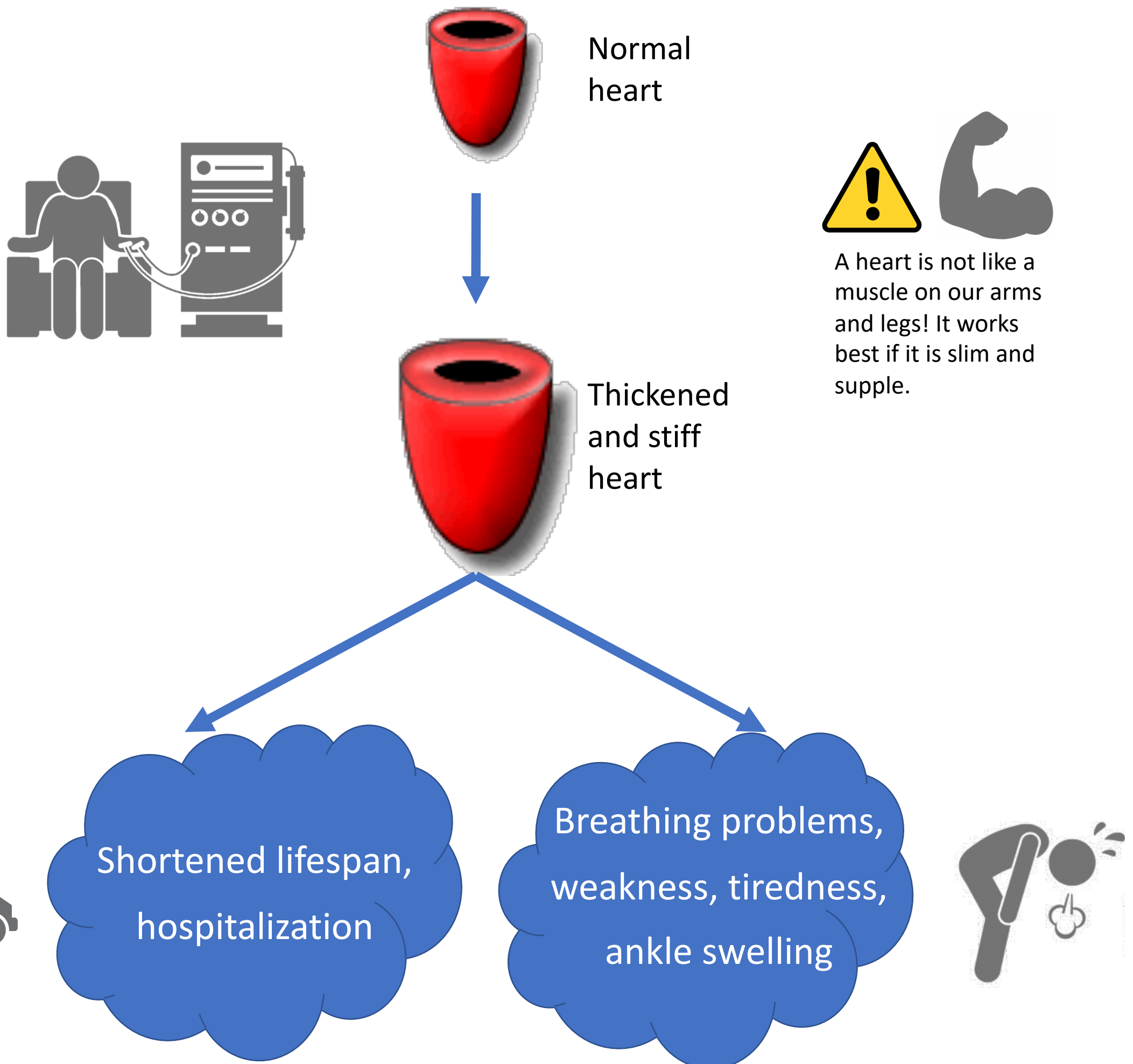


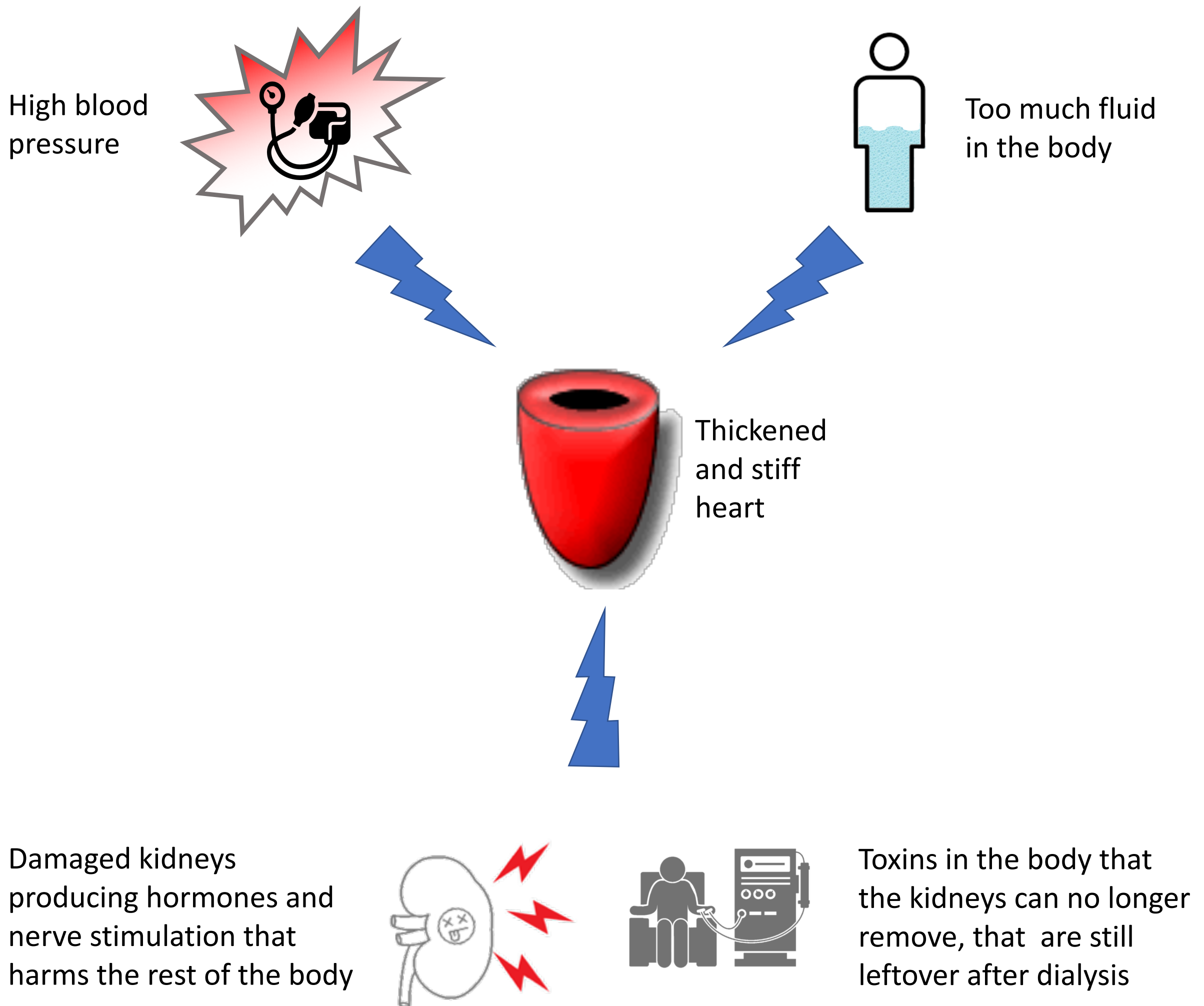
# What's the problem?

Over the years on dialysis, most people develop heart damage in the form of a thickened and stiff heart.



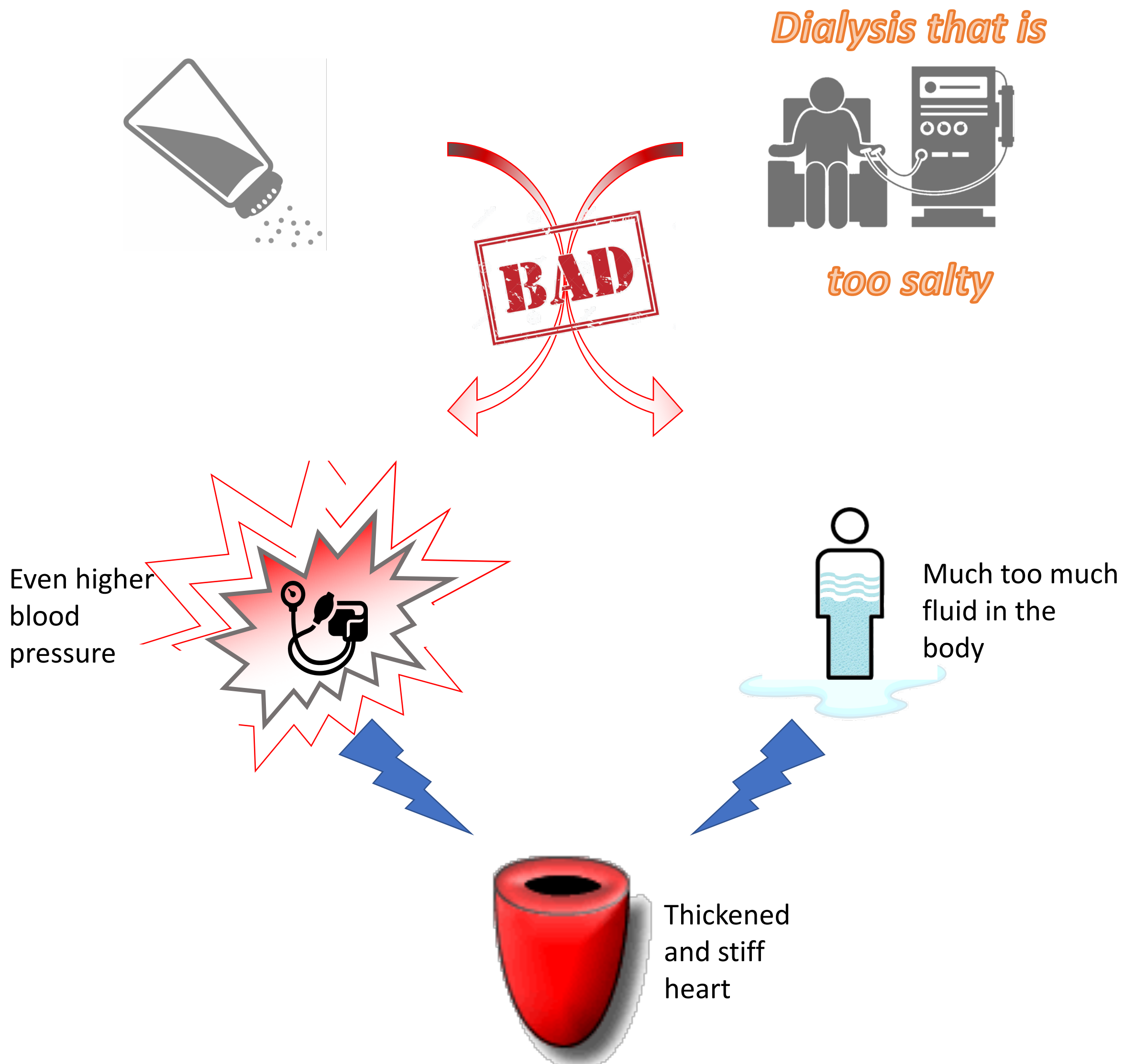
This can cause problems, with people feeling sick from poor heart function, going to hospital more often, and even earlier death.

# Why does the problem happen?



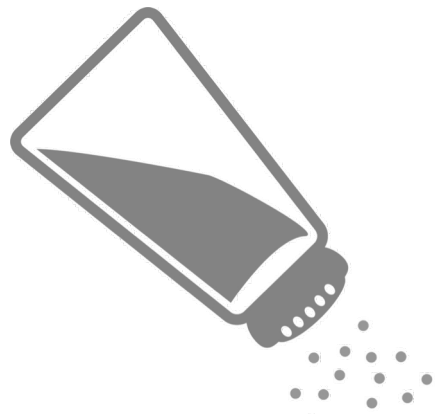
Thickening and stiffening of the heart happens for a few different reasons, but two of the leading ones are high blood pressure and fluid overload.

# The role of too much salt

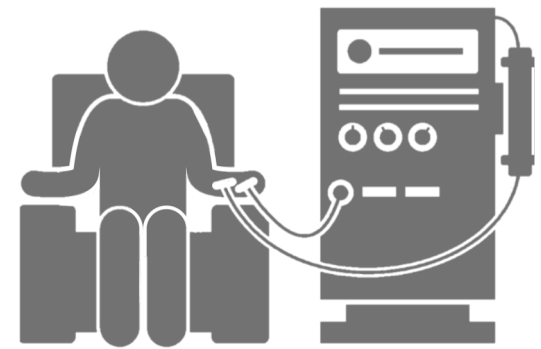


Unneeded salt come from the diet or the dialysis machine, and makes blood pressure and fluid overload even worse.

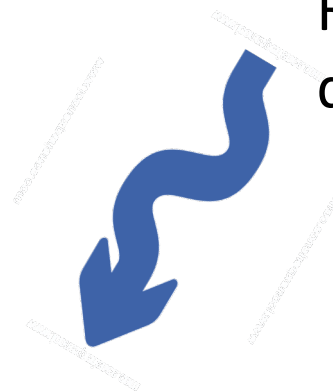
# What can we do?



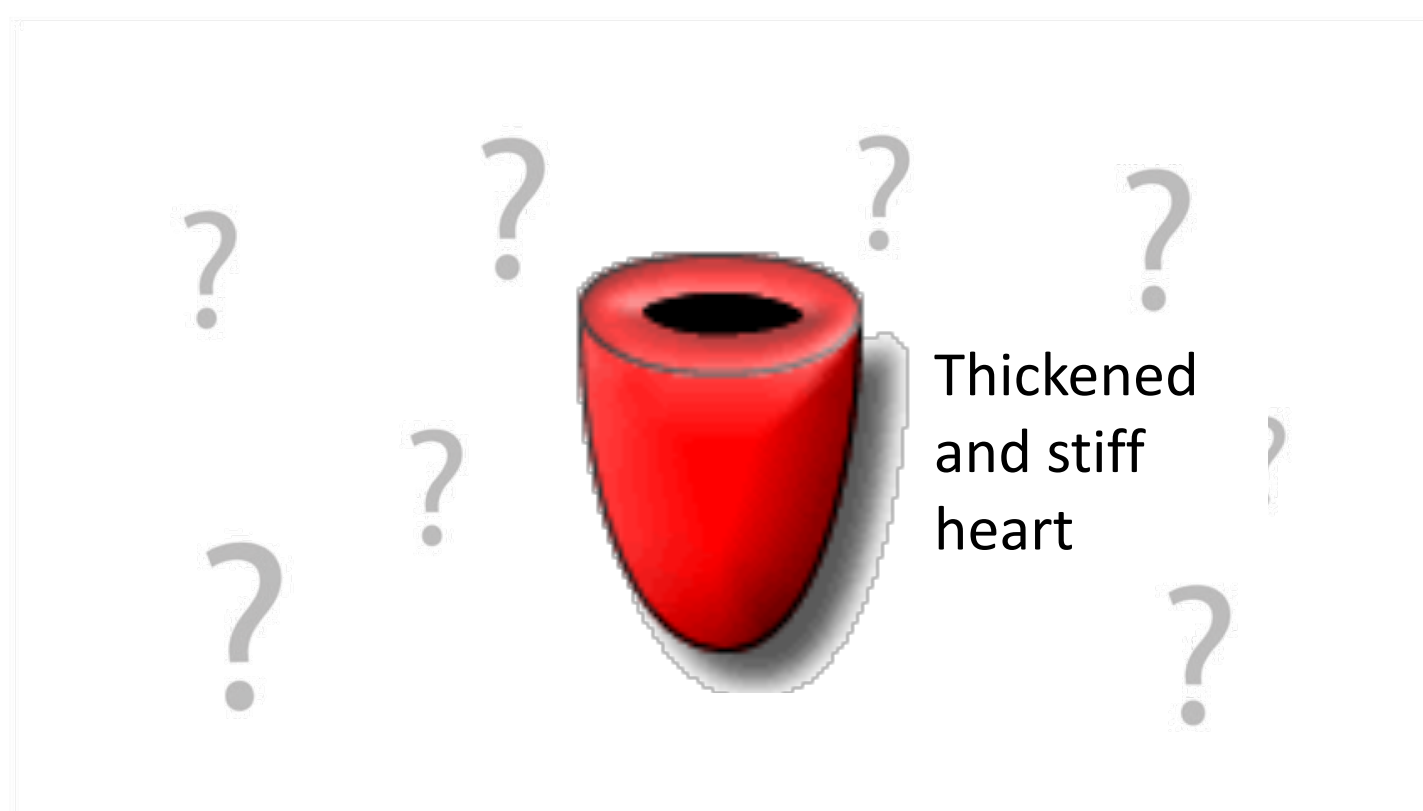
Reduce salt from the diet



Reduce salt from the dialysis machine



This does reduce blood pressure and fluid overload, but...



Reducing unneeded salt from the diet and dialysis machine does reduce blood pressure and fluid overload, but we don't know whether it is enough by itself to fix the heart



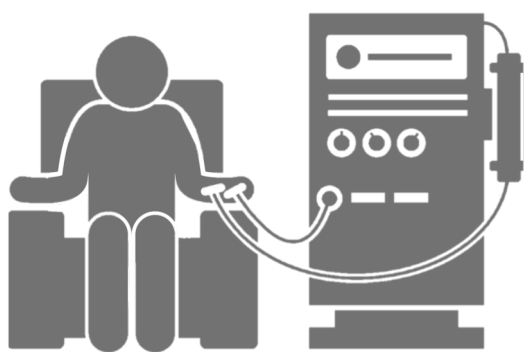
# The SOLID Trial



99 people on dialysis  
from all over NZ.....

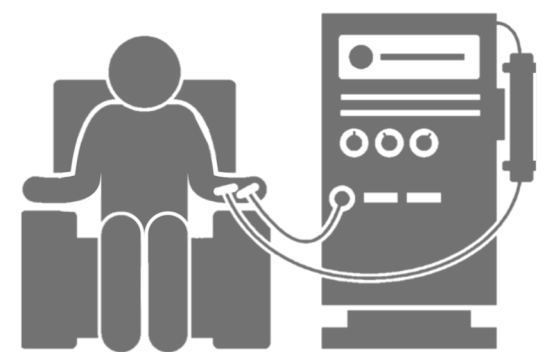


....assigned by random  
chance to either .....



1 year of **low salt** dialysis

vs



1 year of normal dialysis

The SOLID Trial randomized people to either normal dialysis or low salt dialysis. Those recruited were a little younger than the average person on dialysis in New Zealand, but similar in most other ways.

# What did low salt dialysis achieve?

How did it effect the heart?



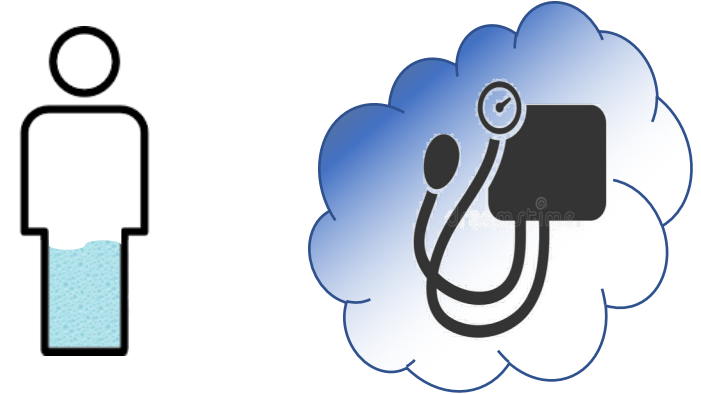
Most patients entering the study had thickened and stiff hearts at the start of the study.

We could not be sure if there was any definite difference in heart thickness between those on low salt dialysis and those on normal dialysis.

There was 4.2% lower heart thickness in the low salt group, but this is such a small difference that it could have come about by chance alone. In addition, it is less than what we think would be needed to improve a person's lifespan (this requires at least a 10% reduction).

# What did low salt dialysis achieve?

Did it improve fluid overload and blood pressure?



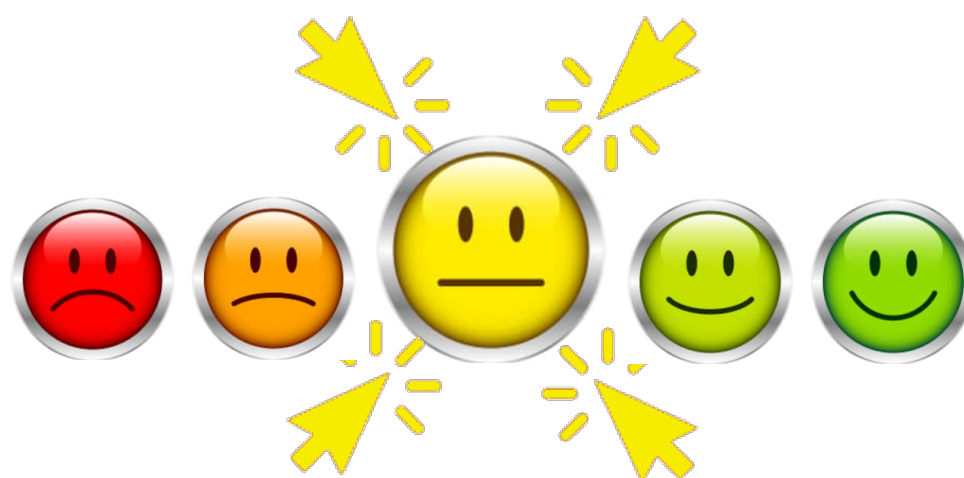
Most patients entering the study were fluid overloaded, and had high blood pressure.

After a year, fluid status was better in the low salt dialysis group compared to the normal dialysis group. We could tell this in multiple ways, including the direct measurements of the body's fluid content, the levels of hormones that reflect fluid overload, and the amount of fluid gained between dialysis treatments (e.g. this was consistently  $\frac{1}{2}$  to 1 kg lower in the low salt dialysis group compared to that in the normal dialysis group).

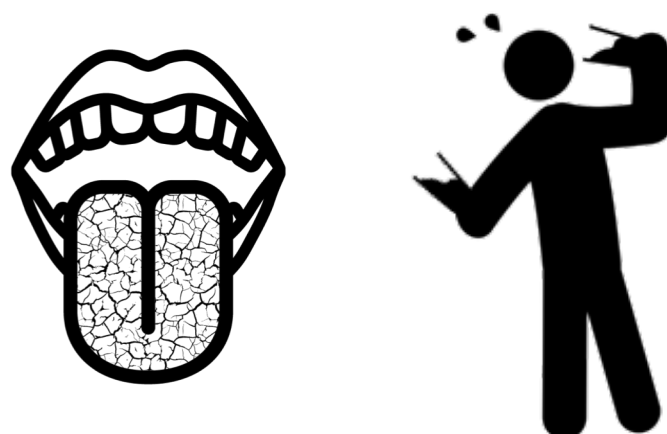
We could not be sure about the effect of low salt dialysis on blood pressure, although there seemed to be a small reduction in blood pressure, and a very strong trend of patients needing less blood pressure medication.

# What did low salt dialysis achieve?

Did it change quality of life or symptoms?



Low salt dialysis did not result in any change quality of life compared to normal dialysis.



Low salt dialysis did not result in any change to dry mouth symptoms or thirst compared to normal dialysis. However, those on low salt dialysis actually drank between ½ to 1 liter less in between treatments compared to those on normal dialysis, so who knows?

# What did low salt dialysis achieve?

Did it have any bad effects?



Low salt dialysis increased the chances of low blood pressure on dialysis (“going flat”), although this seemed to settle a little as time went on.

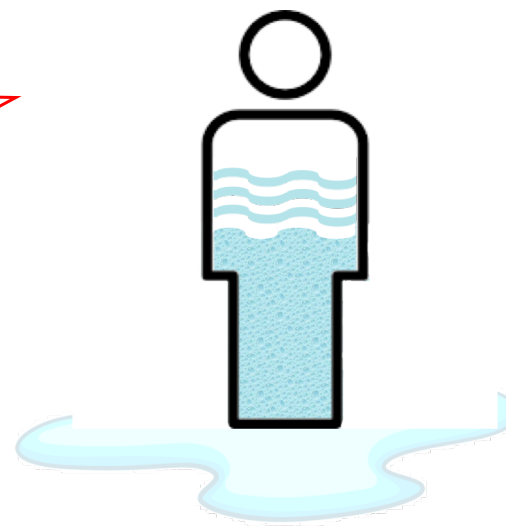


# So, when should one get low salt dialysis?

High blood pressure



Too much fluid in the body



Dialysis patient with higher than ideal blood pressure, or less than perfect control of fluid intake (especially if they are prone to recurrent fluid overload) would probably benefit from low salt dialysis. However, it would be important to make sure that blood pressure is stable on dialysis (no “going flat”).



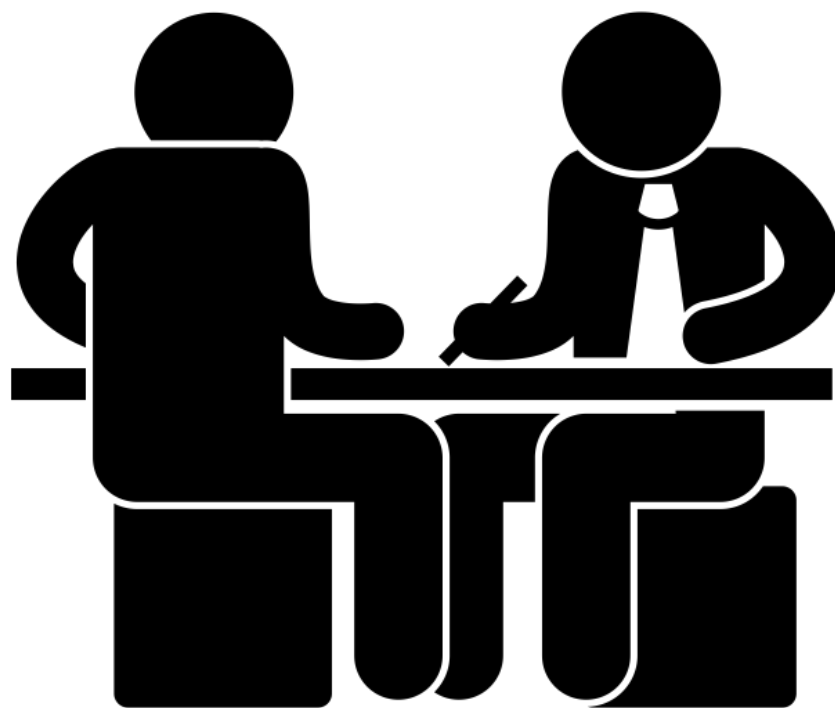
Dialysis patients with frequent episodes of low blood pressure on dialysis (“going flat”) are better off on normal dialysis.



# What happens now?



The SOLID team needs to do more study to see what else might fix the heart problems of dialysis patients, such as better removal of toxins with dialysis, or reducing harmful nerve and hormone activity from the damaged kidneys.



If you are feeling fine and doing well, you need do nothing more. If you would like to discuss the salt level in your dialysis more, then please see your own doctor or nurse, along with this letter. They will discuss the options with you, and together you can choose the best option for your needs.

# Most importantly



from all of us!