Dialysis (AV) Shunt, Malfunction

There is a malfunction or blockage in the shunt that is used to carry out your dialysis treatments. The shunt is an *access* (an entrance or a "way in" to your blood vessels) for the dialysis machine. This access can be made in one of several ways:

- Joining an artery to a vein under your skin to make a bigger blood vessel called a "fistula".
- Joining an artery to a vein under your skin using a soft tube called a "graft".
- Placing a soft tube (called a "catheter") that is placed in a large vein, usually in your neck.

SYMPTOMS

Evidence of shunt malfunction may include:

- During a routine check of your fistula, graft, or catheter at home, you noticed either a change in the expected "vibration" or pulse or you found that this "vibration" or pulse was gone.
- There is new or unusual swelling of the area (such as your arm) around the access.
- There was an unsuccessful puncture of your access by the dialysis team.
- During routine dialysis, your dialysis team found that the flow of blood through the fistula, graft, or catheter was too slow for effective dialysis.
- When routine dialysis was completed and the needle was removed, your dialysis team found that bleeding lasted for too long a time.

CAUSES

What could have caused this problem?

- Infection is a common cause of a shunt not working.
- A blood clot could have formed inside a part of the fistula, graft, or catheter. This could completely or partly block the flow of blood.
- There may have been a kink in the graft or catheter.
- A collection of blood (called a "hematoma" or a bruise) next to the graft or catheter could push against the graft or catheter. This could completely or partly block the flow of blood.

DIAGNOSIS

Your caregiver may order *laboratory* (blood) work, cultures, and a special x-ray test in order to learn what may be wrong with your shunt. This test involves the injection of a special liquid into the shunt that can be seen on x-ray. This helps your caregiver see if there really is a blockage in the shunt. If seen, the blockage can then be treated.

TREATMENT

- If infection is found in the shunt, your caregiver may prescribe antibiotic medication to control the infection.
- If a clot is found in the shunt, you will likely be referred to your surgeon. Several methods can be used to remove the clot so that your shunt is working properly and can still be used for your regular dialysis.
- If a blockage in the shunt is found to be due to some other cause (such as a kink in a graft), then you will likely be referred to your surgeon. The surgeon could discuss methods to unblock the shunt, or there may be discussion about having the shunt replaced.
- If you receive a referral to a surgeon or other physician, it is important that you follow up exactly as instructed. Any delay in follow up could cause permanent dysfunction of the shunt which may be dangerous.

SEEK MEDICAL CARE IF:

- Fever develops.
- Swelling and pain around the shunt gets worse and/or new pain develops.
- Unusual bleeding develops either at the location of the shunt or from any other area.
- Pain, numbness, or an unusual pale skin color develops in the hand on the side of your shunt.

- Dizziness or weakness develops that you have not had before.
- Shortness of breath develops.
- Chest pain develops.

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