

# Vascular Action Chronicles

Interventional Nephrology by Nephrologists

## Getting to know one of our nurses...

### Amy Bonnell, RN

Amy is a Florida native, born and raised in St. Petersburg. She has been happily married for 22 years and has three amazing daughters. She enjoys music and reading, although finding time to participate is a luxury. Other interests include food (both preparing it and eating it!) and spending time with her family. In addition to nursing, Amy has worked in several other fields including real estate and teaching. She loves working with people and feeling like she has made a difference in the lives of those she is able to serve.

*"A calm and modest life brings more happiness than the pursuit of success combined with constant restlessness."*

*Albert Einstein*

## Let's Talk Options! #2 - Peritoneal Dialysis

Another option for patients with kidney failure is **Peritoneal Dialysis (PD)**. This method of dialysis uses the lining of your abdominal (or peritoneal) cavity inside your own body as the filter by which your blood gets cleansed. PD can be divided into two groups: Continuous Ambulatory Peritoneal Dialysis (CAPD) and Automated Peritoneal Dialysis (APD). Both of these options can be performed at home after adequate training and both are performed every day. They differ in their delivery method.

CAPD is performed by gravity multiple times throughout the day while you are awake; while APD cycles automatically at night while the patient is sleeping. Both consists of filling your belly with the dialysate (cleansing fluid) and then allowing the fluid to drain after the equilibration process occurs. The process of filling and emptying the fluid from your belly is called an **exchange**. The time that the dialysate remains inside your peritoneal cavity is called the **dwel time**.

During the dwell time, actions of diffusion and osmosis work to perform the cleansing process of the blood. **Diffusion** occurs when fluid in two separate compartments (ie. dialysate and blood) which have different concentrations of particles, mix while passing through the semipermeable lining of the peritoneal wall until they have equal concentrations of particles in both fluids. During this process, waste and toxins are moved from the blood to the dialysate solution. **Osmosis** works when water moves across the membrane to have equal concentrations on both sides of the membrane. When the exchange is completed, toxins, waste, and water are then removed from the body with the dialysate solution.

The benefits to PD are fewer issues with hypotension, nausea, cramping, vomiting and weight fluctuation, as well as, fewer dietary restrictions, no needles, and flexibility and freedom with treatments. The risks and limitations to PD are possible infections to the catheter insertion site or peritoneal cavity, possible hernias or abdominal wall weakening, increased blood sugar due to the dextrose in dialysate, weight gain, and possible inadequate dialysis after years of treatment.

Overall, Peritoneal Dialysis is a very good method of cleansing and filtering the blood in renal patients.





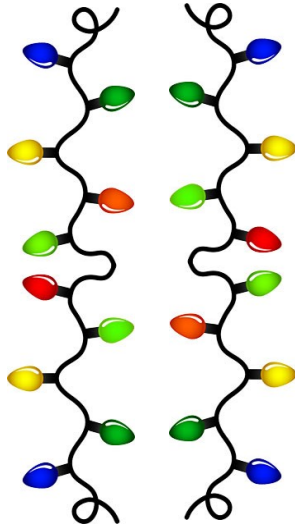
## Joke of the day

What do you call a snowman party?

**A Snow Ball!**

Urination is **not equal** to kidney function!

The kidneys act like a filter to clean the blood. Urine is created from the filtered blood. The quality of kidney function is related to the amount of filtration.



## Did you know?

Safety is our goal. Vascular Action puts patient safety at the forefront of our business and ensures that proper safety and sanitary guidelines are followed to reduce the risk of infections. In fact, our center just successfully completed its annual **state inspection** in October 2017, and is very proud of this achievement.

According to the CDC, in 2008 approximately 37,000 bloodstream infections occurred in patients with a hemodialysis catheter. In addition, since 1993 hospitalizations among hemodialysis patients increased 47% for bloodstream infections and 87% for vascular access infections.

With these statistics in mind, Vascular Action is committed to providing the best healthcare environment to help our patients avoid hospitalization. To that end, patients are seen the same day or next day for emergency cases, reducing the need to be seen at the hospital.

To deliver on our mission of providing the best dialysis access care to every patient with advanced renal failure, our center will continue to strive to be one of the safest healthcare provider in the industry.

## Nurses Notes: How Dialysis Works

Your kidneys are very intelligent organs and affect almost every part of your body. When your kidneys fail, dialysis must take over a very big job. The two main functions of the kidneys are to eliminate waste or toxins in your body while maintaining an intricate, safe chemical balance, as well as, eliminate excess fluid, which plays a major role in blood pressure and heart function. A solution (dialysate) is used to cleanse the blood and the chemistry of the solution can be adjusted to accommodate each individual patient as needed. The result of the clearance can be measured by the Kt/V formula ( see vol. 1). Your doctor can adjust the duration of treatment time or the blood flow rate to improve your Kt/V. Achieving your prescribed dry weight is the other very important function of dialysis. Dry weight is an empirical number meaning it is not exact, and it can fluctuate as circumstances change. Consistency in all factors is key to accurately measuring dry weight (see vol. 2). Food and fluid intake should be monitored and should be kept consistent. When weighing in, similar clothing and shoes should be worn. By adjusting your dry weight, control over blood pressure is easier to maintain. Dialysis works by regulating and removing the waste/toxins and extra fluid from the body. See illustration below.

## BAKED EGG CUSTARD

Yield: 4 servings  
Serving size: 1/2 cup

### Ingredients:

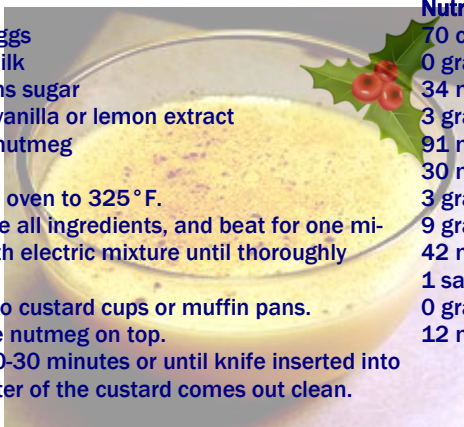
- 2 medium eggs
- 1/4 cup 2% milk
- 3 tablespoons sugar
- 1 teaspoon vanilla or lemon extract
- 1 teaspoon nutmeg

### Directions:

1. Preheat oven to 325° F.
2. Combine all ingredients, and beat for one minute with electric mixture until thoroughly mixed.
3. Pour into custard cups or muffin pans.
4. Sprinkle nutmeg on top.
5. Bake 20-30 minutes or until knife inserted into the center of the custard comes out clean.

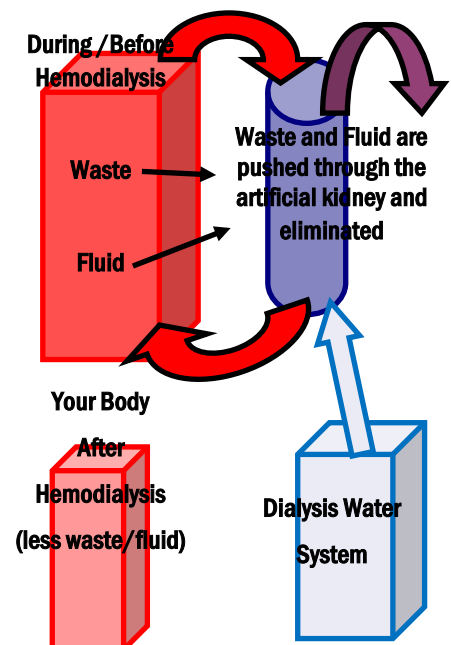
### Nutritional content per serving :

- 70 calories
- 0 grams trans fat
- 34 milligrams sodium
- 3 grams protein
- 91 milligrams cholesterol
- 30 milligrams potassium
- 3 grams fat
- 9 grams carbohydrate
- 42 milligrams phosphorus
- 1 saturated fat
- 0 gram fiber
- 12 milligrams calcium

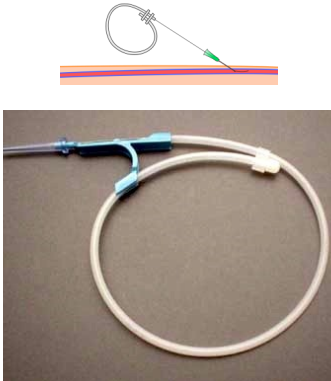


Recipe taken from the 3rd Ed. Of Kidney Cooking, Georgia Council on Renal Nutrition, National Kidney Foundation, Georgia Division, Atlanta, GA

Recipe Corner

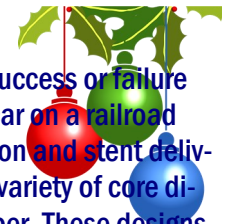


# GUIDE WIRE



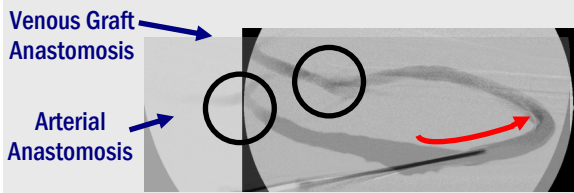
## Tech Talk...

Choosing the proper guide wire in vascular intervention can be the success or failure of the procedure, especially in total occlusions. You wouldn't put a car on a railroad track or a train on the road. A carefully selected wire improves balloon and stent delivery, and controls risk of vascular injury. Wires are engineered with a variety of core diameters and lengths, core material and coatings, tip shapes and taper. These designs create differing performance characteristics. Wire performance can also be affected by vessel shape, external support catheters, and proximity of the steering site to the treatment site. Our vascular intervention team is trained to recognize a vessel's "road conditions" so we can put the right "vehicle" on the road.



## ULTRASOUND \ 'æl-trə-, saund \

:a diagnostic tool often used as a noninvasive procedure. It forms a two-dimensional image by using high-frequency sound waves and is used for the examination and measurement of veins, arteries and dialysis accesses—also called sonography. Its first know use was in 1923.

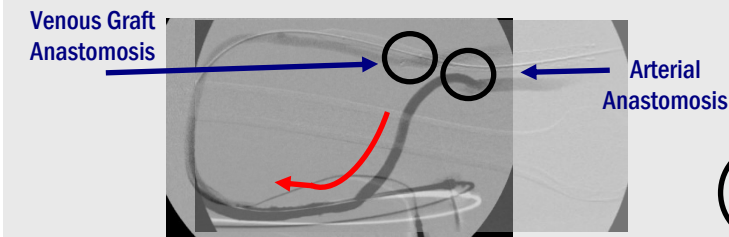


Forearm Loop Graft

← = the direction of the blood flow

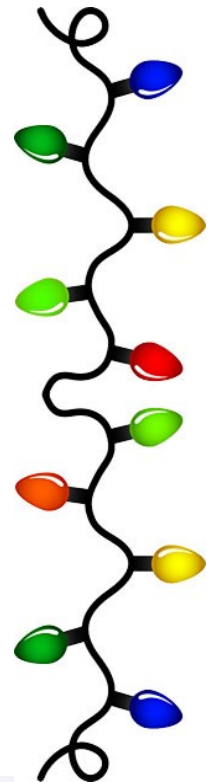


Upper Arm Straight Graft



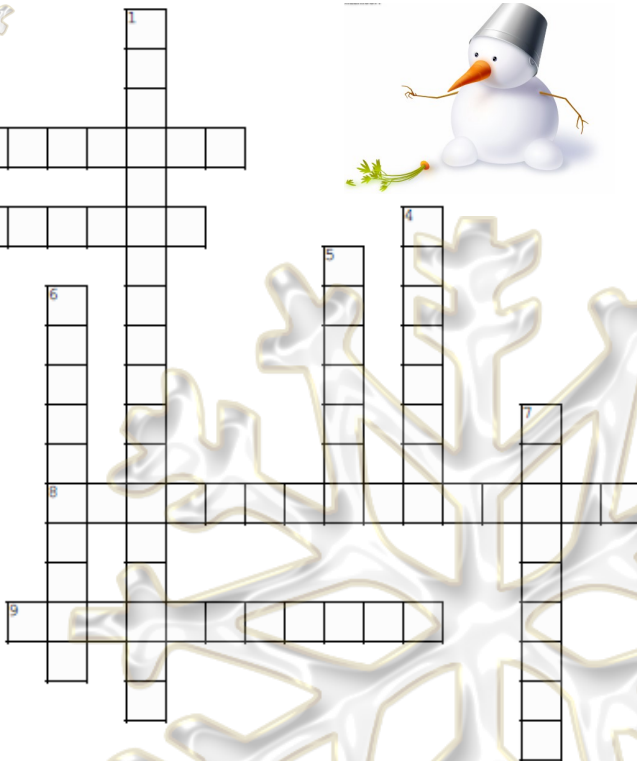
Upper Arm Loop Graft

○ = **Anastomosis** — The joining (or opening) of two vessels that are not normally attached.



A graft is an artificial tube used in place of your own vein. It is connected in two places: to an artery and to a vein. It is the next best choice when your natural vein is unable to be used. Its healing time and maturation are usually shorter than that of a fistula; however grafts have a limited life span of approximately five to ten years.

# CROSSWORD PUZZLE



## Across:

2. the time that the dialysis solution dwells inside a dialysis patient's peritoneal cavity. (pg. 1)
3. the movement of particles between two compartments having different concentrations of these particles (pg. 1)
8. annual monitoring by multiple agencies of all healthcare facilities to insure safety and compliance (pg. 2)
9. the joining or opening between two blood vessels that are not normally connected (pg. 3)

## Down:

1. dialysis which uses the lining of your abdominal cavity inside your own body to filter your blood (pg. 1)
4. the process of filling and emptying the dialysis solution from a dialysis patient's belly (pg. 1)
5. the passing of water through a semi-permeable membrane until the concentration of the fluid is equal on both sides (pg. 1)
6. a diagnostic tool using sound waves to measure and examine dialysis accesses (pg. 3)
7. flexible wire used to navigate through blood vessels (pg. 3)

## ***Asunto en Español***

La dialysis peritoneal es una opcion mas para los pacientes con fallo renal, consiste en la colocacion de un catheter a nivel peritoneal en el area abdominal lo cual ofrece muchos beneficios y muy bajo riesgo.

**Ventajas:** no se necesitan agujas y se puede realizarse la dialysis en la comodidad de su casa con flexibles horarios, las hipotensiones, nauseas, calambres, vomitos y fluctuaciones en el peso son minimos.

**Riesgos :** infeccion del catheter, debilidad de la pared abdominal provocando hernias, incrementar los niveles de azucar en la sangre o ganar de peso por una inadecuada dialysis.

Este procemiento requiere de un adecuado training y se debe realizar diariamente. Existen dos tipos de PD.

**CAPD:** se realiza varias veces al dia, por el metodo de gravedad.**APD:** se realiza durante la noche, mientras el paciente duerme, no interfiriendo con las tareas diarias.

El fluido llamado DIALYSATE, es administrado atravez del catheter, todo el tiempo que este permanece en el cuerpo es llamado DWELL TIME, cuando pasa atravez de las membranas ocurre la DIFUSION y la OSMOSIS, el liquido es eliminado del cuerpo atravez del catheter, arrastrando todas las toxinas, residuos y extra liquido del cuerpo , a esto se le llama INTERCAMBIO.

Una buena DIALISIS se logra calculando el KT/V formula y el PESO SECO. Teniendo en cuenta los resultados de laboratorio y la cantidad de alimentos y liquidos ingeridos por el paciente, el medico determina el tiempo de tratamiento para lograr una mejor presion sanguinea y a su vez una mejor funcion cardiaca.

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Consult a qualified physician of your choice for diagnosis and/or treatment.