



What Do Patients Know About Their Reprocessed Dialyzer?

As a reprocessing technician you know all about reprocessing dialyzers, but what does the owner of one of those dialyzers, the patient, know about what happens to their dialyzer? Obviously, your knowledge of reprocessing is more in depth than the typical patient's, but many patients want to know more about their dialyzer and reprocessing. The variety and depth of what patients want to know will be as varied and individual as the patients themselves.

At a minimum the patient should be aware of the following:

- Dialyzer **reuse** is the practice of using the same dialyzer for multiple treatments on the same patient.
- Dialyzers are not just reused, they are **reprocessed**. The reprocessing procedure involves cleaning, testing, filling **their** dialyzer with a sterilant (**Renalin®**), inspecting, labeling, storing and rinsing **their** dialyzer before it is reused for **their** next treatment.
- **Their** dialyzer will be reprocessed carefully after each use by trained personnel.

Detailed records of **their** dialyzer's history will be kept. This will ensure that **their** dialyzer is safe for them to use again.

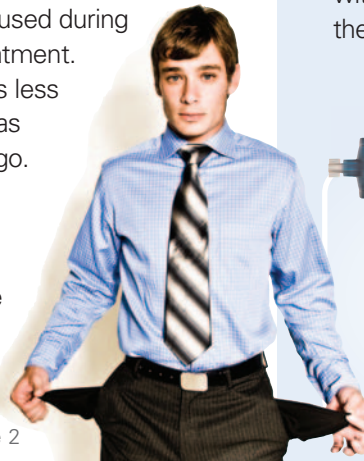
Beyond these main points, three other areas will be of considerable interest to many patients. These areas are the three E's: Economics, Efficacy, and the Environment.

Economics

The cost of treatment keeps going up, but the amount of money that the government pays the dialysis facility for each treatment is fixed. This fixed rate is supposed to pay for all dialysis supplies, staffing and other services that are part of a treatment.

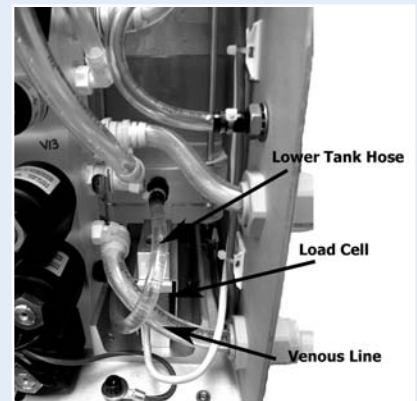
In the future, this rate will also have to cover drugs used during the dialysis treatment. The fixed rate is less today than it was twenty years ago. Savings from dialyzer reprocessing can be used to provide additional patient services.

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Renatron

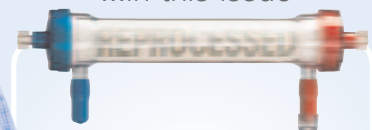
Q: I just performed a Renatron® Tubing Kit Installation, and now I get tank volume alarms. What could be the problem?



A: If the venous blood line contacts the lower tank hose or the load cell it may cause erratic volume readings and tank volume alarms in Steps 47, 69, and 79.

The venous line should be positioned inside the lower tank hose but not in direct contact with the lower tank hose or the load cell.

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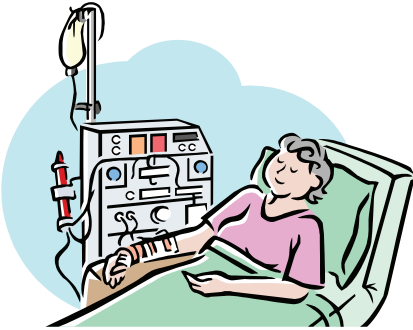


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Efficacy

Dialyzer reuse is as old as chronic dialysis itself! Dialyzer reuse has been done safely in the United States since the 1960's and continues to be a common practice in a significant number of dialysis facilities.



Millions of patient treatments have been safely carried out using reprocessed dialyzers. Extensive studies show reuse to be as safe and effective as single use. Facilities must follow strict rules that were created by patients, health and business experts, scientists and government officials. Also, monthly blood tests are standard practice for all patients on dialysis, whether they are treated with a reusable dialyzer or they throw away their dialyzer after every treatment. These monthly tests will confirm that the dialyzer is working properly and that they are receiving adequate treatment.

Environment

By reprocessing their dialyzers, patients are helping the environment. Reprocessing reduces the amount of raw materials necessary to manufacture all the dialyzers needed for their treatments and dramatically decreases the

number of discarded dialyzers that end up in community landfills.

100% of the components of a synthetic-fiber dialyzer come from oil, a non-renewable resource. The production, distribution and final disposal of oil based products have a significant effect on the environment. The manufacturing and distribution of products that are oil based increases the amount of carbon released into the atmosphere. "Carbon dioxide is released to the atmosphere when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned."¹ This increases the amount of greenhouse gases in the atmosphere, and an increase in greenhouse gases leads to an increase in temperature. "World carbon dioxide emissions are expected to increase by 1.9 percent annually between 2001 and 2025."² Also, dialyzers discarded in landfills will remain intact virtually forever; they do not biodegrade. Discarded dialyzers may disappear from sight, but they never really go away.

On the other hand, the components of Renalin breakdown easily and do not harm the environment.

Renalin byproducts are all natural and break down into oxygen, water and acetic acid (an organic compound that gives vinegar its unique smell).

If a patient is treated with a disposable dialyzer three times a week,

they will need **156** dialyzers per year. However, if they are treated with reprocessed dialyzers and each dialyzer is used 16 times, they will only need **10** dialyzers per year. This saves **146** dialyzers per person from entering the waste stream each year. And keep in mind that there are over 325,000 people on hemodialysis in the U.S. alone. If no one reused dialyzers, almost 50 million dialyzers would be added to community landfills year after year. That mountain of medical waste will stay around forever.

Dialyzer reprocessing has saved millions of dialyzers from being prematurely discarded. Dialyzer reprocessing dramatically reduces the number of dialyzers needed to treat all the patients in the U.S., thus reducing the amount of oil needed to manufacture all those dialyzers. Dialyzer reprocessing significantly minimizes the amount of medical waste generated by dialysis facilities. The bottom line is that the single use of dialyzers is wasteful and harmful to the environment; dialyzer reuse is much more environmentally friendly.

[A Patient's Guide to Dialyzer Reprocessing](http://www.minntech.com/renal/patient/index.html) published by Minntech and available for downloading on our website at <http://www.minntech.com/renal/patient/index.html>, is a great tool for you and your patients to start learning more about dialyzer reprocessing.



¹ Global Warming – Emissions, What are Greenhouse gases? Retrieved August 24, 2007, from <http://yosemite.epa.gov/oar/globalwarming.nsf/content/emissions.html>

² Greenhouse Gases, Climate Change, and Energy, Why are Atmospheric Levels Increasing? Retrieved August 24, 2007, from <http://www.eia.doe.gov/oiiaf/1605/ggcebro/chapter1.html>



What is Green? An Editorial by Kendall Larson, Clinical Specialist

It's not easy bein' green.

It seems you blend in with so many other ordinary things.

"It's Not Easy Bein' Green"

(lyrics by Joe Raposo)

So sang Kermit the Frog.

When the organic food movement starting gaining a foothold in the marketplace a few decades ago, many companies jumped on the bandwagon and started making all sorts of dubious claims. Companies would label their products with descriptors like: nature, natural, organic, contains natural ingredients, and wholesome. Some of these products may have fit the description, and many others just had those words on their labels and were far from organic. Consumers needed to

take a closer look at these claims to determine what was real and what was not. Eventually, federal regulatory agencies stepped in and helped consumers by defining what could and could not be labeled as organic.

A similar scenario is happening today with claims of "being green." Today, green is the big buzz word. Everyone wants to promote green, everyone wants to be green, and people and companies are using the word "green" for describing their company and their products. There is green architecture, green infrastructure, green power, green IT, green janitorial service, green lawn service, and the list goes on. But what does it mean to be green and what would be considered a green product? We all seem to

have an idea of what green means but we have a little harder time actually defining the term. Finding a definition of "green" is not as easy as it seems. An internet search does not reward you with a concise definition but the general concept of green incorporates the efficient use of natural resources, reducing waste and pollution, and protecting the environment.

Since there are no regulations on who can call themselves green and what products are "really" green, the consumer needs to do a little of their own homework. It may be hard for an individual to determine all the green aspects of a company and its products, but one area we can easily verify is where products fit in the waste hierarchy pyramid.

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Choose Reuse to **LIVE THE DIFFERENCE**

The Three E's of Dialyzer Reprocessing

Efficacy

- Study after study has shown a reprocessed dialyzer performs as well as a single use dialyzer
- Reprocessed dialyzers have proven to be safe and effective in providing patients quality dialysis for over 30 years
- Reprocessing of dialyzers is performed in over 1,500 clinics throughout the United States

Environment

- 62 million lbs. of waste — if all dialyzers were single use
- Only 4 million lbs. of waste — if all dialyzers were reprocessed
- 2.7 billion — Number of dialyzers in waste dump by 2030 if everyone went to single use
- 100% — Percentage of polysulfone fibers made from oil
- **1/2 of FOREVER — Time it takes to breakdown a dialyzer**

Economics

- Reusing dialyzers saves clinics on average \$5 per treatment
- For the over 1,500 clinics who reuse, this means a savings of approximately \$80 million per year
- These savings can be used for other critical needs in the clinic: more staff, better machines, newer chairs

What is Green?

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The waste hierarchy pyramid is based on the 3 R's of reduce, reuse, and recycle and was developed to help determine how best to maximize the benefits of a product while minimizing the amount of waste. The pyramid illustrates the waste handling options ranging from the least favored on the bottom to the most favored on the top.

Look at where non-reuse disposable dialyzers fit into the waste hierarchy pyramid. The very name, disposable dialyzers, puts them at the bottom of the pyramid, which is the least favored option, the **disposal** level. In an article in Renal Business Today titled [It's Not Easy Being Green – Making Dialysis Environmentally Friendly](#), an executive from a large manufacturer of disposable dialyzers states, "When you make 40 million dialyzers, that's a lot of plastic, it's a lot of fiber, but we do feel like we're treating it in the best way we can and trying to be as friendly to the environment as we possibly can be."¹ The article goes on to mention that the fibers of scrapped dialyzers are sent to a factory in Utah and used in a cement making process and that the waste from dialyzer ends caps are ground up and used for toy production in China. These two processes fit near the middle of the waste pyramid, the **recycling** level.

Reprocessing dialyzers with Renalin® Cold Sterilant using the Renatron® Reprocessing System is the **reuse** of a dialyzer for the

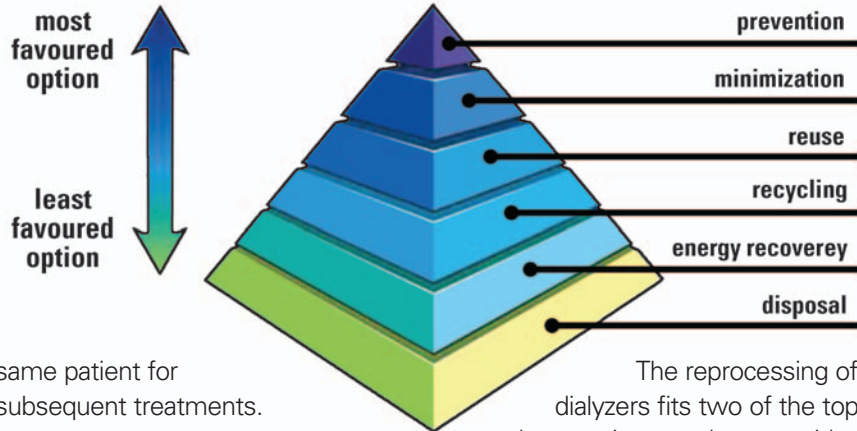
same patient for subsequent treatments.

The reuse of hemodialyzers sits above the levels of disposal and recycling on the waste hierarchy pyramid, placing it as a more favored option. The end effect of dialyzer reuse is the **minimization** of millions of dialyzers needed if everyone used disposable dialyzers. Renalin byproducts are all natural and breakdown quickly into oxygen, water and acetic acid, and do not harm the environment.

The most favored option on the waste hierarchy pyramid is **prevention**. This prevention will only occur when renal failure is eliminated or the current practice of using dialyzers is replaced by another treatment option. Since we can not currently eliminate the use of dialyzers, what are the next most favored options? If promoting the idea of a disposable dialyzer is the primary focus, the recycling of scrapped production materials is of minimal consequence when compared to the total output of disposable dialyzers that need to be produced. Disposable products and the recycling of scrap materials put you close to the bottom of the waste hierarchy pyramid.

Waste Hierarchy Pyramid

www.wasteonline.org.uk/.../WasteDisposal.htm



The reprocessing of dialyzers fits two of the top three options on the pyramid, reuse and minimization; in fact many dialysis centers have been at those levels in the pyramid for decades and have safely performed millions of patient treatments using reprocessed dialyzers.

¹ <http://www.renalbusiness.com/articles/07junfeat2.html>



Calendar of Events 2008-2009

November 2008

ASN Renal Week 2008
(www.asn-online.org)
November 4th-9th
Philadelphia, PA

December 2008

Kidney Ball: Motown Magic
NKF of Michigan
(<http://www.nkfm.org>)
December 8th
Detroit, MI

January 2009

RSN's 10th Renal Teen Prom
(<http://www.rsnhope.info>)
January 18th
Sherman Oaks, CA

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