A wearable, computerized dialysis system

Technology #cu16208

This technology is a modular, wearable dialysis system comprised of a set of compact, computer-controlled dialyzers that purify the blood.

Unmet Need: Portable dialysis system for in-home treatment

Patients with chronic kidney disease must visit dialysis centers multiple times per week to receive treatment, which hinders patient autonomy and quality of life. Although home-based dialysis systems have been introduced, these machines are cumbersome, expensive, and difficult to transport. A device that can extend the time between dialysis clinic visits is an alternative approach for improving quality of life for patients with kidney failure.

The Technology: Wearable dialysis system that extends time between required in-clinic treatments

This technology is a compact, wearable dialysis system that is intended to extend the time between required visits to a dialysis center. The device consists of a computerized manifold with tubes connecting to the patient’s blood supply, as well as a series of two or more compact dialyzers. Computerized valves only allow for one dialyzer to be open at a time, and switch between dialyzers for continuous blood purification. This enables wearable, on-the-go dialysis that can be performed for several days before the modular dialyzers must be replaced. The device is intended to be used between visits to the dialysis center and can help to reduce the number of weekly required in-center dialysis treatments.

Applications:

• Portable dialysis

Advantages:

• Compact, wearable, and portable
• Extends time between in-clinic dialysis appointments
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Patent Information:
Patent Pending

Related Publications:

Tech Ventures Reference:
• IR CU16208
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