Separation Mechanism

Phonons, obtained by ultrasonic dispersion, are divided into large and small molecular weight components by Cascadeflo™ EC, a unique polymeric material with high molecular weight separation properties, such as the ability to remove dipoles and concentrating particles in the plasma. The separation process is divided into two stages: the first stage is the large polymeric separation process, followed by the second stage of small polymeric separation. The large molecules are removed by the large polymeric separation process, while the small molecules are removed by the second stage of small polymeric separation. This separation process is highly efficient and can remove a wide range of molecular weight components.

Selection of Models

Use of EC-30wY

EC-30wY is effective for both large and small molecular weight removal. The separation efficiency is high, and the separation time is short. The removal of large polymeric separation helps to remove the large molecules effectively, while the small polymeric separation helps to remove the small molecules effectively.

Use of EC-50wY

EC-50wY is effective for cell and plasma removal. The separation efficiency is high, and the separation time is short. The removal of large polymeric separation helps to remove the large molecules effectively, while the small polymeric separation helps to remove the small molecules effectively.

Replacement Fluid

The Replacement Fluid is designed to be non-toxic and biocompatible. It is composed of a mixture of saline and glycol, which is designed to be non-toxic and biocompatible. The replacement fluid is designed to be compatible with the large and small polymeric separation process, and it helps to maintain the stability of the plasma during the separation process.

Specifications

- **EC-30wY**
  - 
- **EC-50wY**
  - 
- **EC-20wY**
  - 

References

Indication
This device is applicable to diseases which have the causative factor or etiology in high molecular weight substance of plasma, such as:
- Metabolic diseases with EC30% or EC40%
- Immune diseases with EC30% or EC40%

Features of Cascadeflo EC
- Wide application by selection of optimal model
- Resistance of patient even when normal protein substance increases, e.g., albumin
- No or minimums of injection from replacement fluid
- Prevents possible protein leakage in replacement fluid

Sharp Cut-off Curve
Homogeneous distribution of pores also provides sharp cut-off feature

Clinical Experiences of DFPP

**Metabolic Disorders**
- Familial hypercholesterolemia (FH)
  - LDL apheresis is applied for FH patients who have either ineffective or insufficient maximum medication therapy and ineffective dietary control. LDL-cholesterol (LDL-C) can be removed from plasma by absorption precipitation, or filtration methods or from whole blood. LDL-apheresis methods are effective in reducing LDL-C below 100 mg/dl.

**Microinflammatory Disorders**
- Periarticular disease (PADO)
  - By eliminating LDL-C particles and high molecular weight proteins, DFPP decreases plasmon viscosity and hereby improves two rheotaxis in microcirculation.

Examples of Applications
(Based on Japanese health insurance coverage and references 5 to 17)

- **Metabolic Disorders**
  - Familial hypercholesterolemia (FH) ***
  - Familial hypertriglyceridemia (HTG) ***
  - Malnutrition-related atrophy (MRA) ***

- **Rheumatoscopic Disorders**
  - Systemic lupus erythematosus (SLE) ***
  - Rheumatoid arthritis (RA) ***

- **Neuromuscular Disorders**
  - Glioblastoma (GB) ***
  - Chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) ***

- **Hematological Disorder**
  - Primary myelofibrosis (PMF) ***

- **Allergic Disorder**
  - Hepatitis C ***

- **Others**
  - Periarticular disease (PADO) ***
    - Adjunctive muscle degeneration (AMD) 1-5 ***
    - Severe blood type incompatibility pregnancy ***

Recommended model
- EC30%, EC40%, EC50%,

Refrigerator DF4000 (refrigerator to DF4000 model)