All you need to know about vascular and peritoneal access techniques

Hemodialysis Vascular Access and Peritoneal Dialysis Access

Editors
Claudio Ronco
Nathan W. Levin

Recent developments have spurred a renewed interest in novel solutions to access the patient circulation, mainly concentrating on vascular access for renal replacement therapies and on peritoneal dialysis access.

Starting with the epidemiology, the focus then shifts to the evolution of new techniques and monitoring procedures with regard to hemodialysis, which are discussed and evaluated. Attention is also paid to the new biomaterials available, concentrating on their improved biocompatibility and surface characteristics. As developments in the field of peritoneal dialysis have taken a similar turn, new devices providing access to the peritoneal cavity which have recently been made available are introduced next. Last but not least, the management of complications and the continuous maintenance and care of the access with regard to both hemodialysis and peritoneal dialysis are highlighted.

This book provides a complete overview of the devices, catheters and methods currently available to ensure successful vascular and peritoneal access. Taking into account both the physiology of the extracorporeal circulation and the mechanisms of peritoneal dialysis with regard to the most adequate access techniques, this is a unique resource for clinicians, investigators and researchers in the field of renal replacement therapy.
Contents

**Foreword:** Ronco, C.; Levin, N.W.

**Preface:** Shaldon, S.

### Hemodialysis

**History and Evolution of the Vascular Access for Hemodialysis:** Bonello, M.; Levin, N.W.; Ronco, C.

**Epidemiology of Vascular Access for Hemodialysis and Related Practice Patterns:** Saran, R.; Pisoni, R.L.; Weitzel, W.F.

**Vascular Access: Issues and Management:** Besarab, A.

**Arteriovenous Fistulas: Different Types and Surgical Techniques:** Berardinelli, L.

**Vascular Grafts for Hemodialysis: Types, Sites and Techniques:** Warnock, D.G.; Tolwani, A.J.; Gallichio, M.; Allon, M.

**Temporary Vascular Access for Hemodialysis Treatment. Current Guidelines and Future Directions:** Weijs, M.C.; ter Wee, P.M.

**Hemodialysis Catheters: Materials, Design and Manufacturing:** Gloukhoff Wentling, A.

**Chronic Central Venous Catheters for Dialysis and the Ash Split Cath® Catheter: Rationale and Clinical Experience:** Ash, S.R.

**Long-Term Vascular Access: The Tesio Catheter:** Tesio, F.; Panarello, G.

**Vascular Access for Acute Extracorporeal Renal Replacement Therapies:** Granata, A.; D’Intini, V.; Bellomo, R.; Ronco, C.

**Totally Implantable Subcutaneous Devices for Hemodialysis Access:** Moran, J.E.; Prosl, F.

**Complications of the Vascular Access for Hemodialysis:** Konner, K.

**Monitoring Techniques of Vascular Access:** Segal, J.H.; Weitzel, W.F.

**Hematocrit-Based Measurements of Vascular Access Flow Rate:** Bell, D.A.; Zhang, S.

**Hemodynamics of the Hemodialysis Access: Implications for Clinical Management:** Paulson, W.D.; Jones, S.A.

**Vascular Access Recirculation: Measurement and Clinical Implications:** Schneditz, D.; Krivitski, N.

**Arteriovenous Vascular Access Flow Measurement: Accuracy and Clinical Implications:** Krivitski, N.; Schneditz, D.

**Interventional Techniques for Malfunctioning Accesses:** Shams, J.

**Quality Assurance and Continuous Quality Improvement Programs for Vascular Access Care:** Walters, B.A.J.; Pennell, P.; Bosch, J.P.

**Systemic Barriers to Vascular Access Care: Implications for Clinical Outcomes:** Sands, J.J.; Montis, A.L.; Etheredge, G.D.

**The Vascular Access: Long-Term Patient’s Considerations and Reflections:** Newmann, J.M.

**An Experimental Temporary Vascular Access Catheter for Intracorporeal Plasma Separation:** Handley, H.H. Jr.; Gorsuch, R.; Peters, H.; Punzaian, L.; Cooper, T.G.; Levin, N.W.; Ronco, C.

**Peritoneal Dialysis**

**History and Development of the Access for Peritoneal Dialysis:** Twardowski, Z.J.

**Techniques of Peritoneal Catheter Insertion:** Rodrigues, A.; Cabrita, A.; Nogueira, C.

**Maintenance of Functioning PD Access and Management of Complications:** Verger, C.

**Catheter Exit Site Care in the Long Term:** Twardowski, Z.J.

**Conditions Leading to Catheter Removal or Substitution:** Dell’Aquila, R.; Rodighiero, M.P.; Bonello, M.; Ronco, C.

**New Catheter Design for Continuous Flow Peritoneal Dialysis:** Ronco, C.; Gloukhoff Wentling, A.; Amerling, R.; Cruz, C.; Levin, N.W.

**Blood Purification in Intensive Care**

2nd International Course on Critical Care Nephrology, Vicenza, May 2001

**Editors:** Ronco, C.; Levin, N.W.

**Vol. 140**

**Peritoneal Dialysis Today**

Editors: Ronco, C.; Dell’Aquila, R.; Rodighiero, M.P. (Vicenza)

CHF 228.– / EUR 163.– / USD 198.25
ISBN 3–8055–7485–1

**Vol. 137**

**Hemodialysis Technology**

Editors: Ronco, C.; Winchester, J.F.

CHF 228.– / EUR 163.– / USD 198.25
ISBN 3–8055–7423–1

**Vol. 138**

**Dialysis, Dialyzers and Sorbents Where Are We Going?**

Editors: Ronco, C.; La Greca, G. (Vicenza)

CHF 228.– / EUR 163.– / USD 198.25

**Vol. 139**

**Blood Purification in Intensive Care**

2nd International Course on Critical Care Nephrology, Vicenza, May 2001

Editors: Ronco, C.; (Vicenza); Bellomo, R. (New York, N.Y.)

CHF 228.– / EUR 163.– / USD 198.25

**Vol. 132**

**Vascular Access for Acute Extracorporeal Renal Replacement Therapies:** Granata, A.; D’Intini, V.; Bellomo, R.; Ronco, C.

**Totally Implantable Subcutaneous Devices for Hemodialysis Access:** Moran, J.E.; Prosl, F.

**Complications of the Vascular Access for Hemodialysis:** Konner, K.

**Monitoring Techniques of Vascular Access:** Segal, J.H.; Weitzel, W.F.

**Hematocrit-Based Measurements of Vascular Access Flow Rate:** Bell, D.A.; Zhang, S.

**Hemodynamics of the Hemodialysis Access: Implications for Clinical Management:** Paulson, W.D.; Jones, S.A.

**Vascular Access Recirculation: Measurement and Clinical Implications:** Schneditz, D.; Krivitski, N.

**Arteriovenous Vascular Access Flow Measurement: Accuracy and Clinical Implications:** Krivitski, N.; Schneditz, D.

**Interventional Techniques for Malfunctioning Accesses:** Shams, J.

**Quality Assurance and Continuous Quality Improvement Programs for Vascular Access Care:** Walters, B.A.J.; Pennell, P.; Bosch, J.P.

**Systemic Barriers to Vascular Access Care: Implications for Clinical Outcomes:** Sands, J.J.; Montis, A.L.; Etheredge, G.D.

**The Vascular Access: Long-Term Patient’s Considerations and Reflections:** Newmann, J.M.

**An Experimental Temporary Vascular Access Catheter for Intracorporeal Plasma Separation:** Handley, H.H. Jr.; Gorsuch, R.; Peters, H.; Punzaian, L.; Cooper, T.G.; Levin, N.W.; Ronco, C.