

Provincial Clinical Guideline



Title: Measuring Peritoneal Dialysis Adequacy: Kt/V Collection

Level: Provincial

Service Area: Kidney Health Manitoba

Applicable to: All healthcare providers, organizations, and facilities across Manitoba involved in delivering health services provided or funded by the government or a health authority.

Approved by: Kidney Health Manitoba Subcommittee

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1.0. Purpose

- 1.1. To establish standardized procedures for the assessment and measurement of dialysis adequacy in patients undergoing peritoneal dialysis.

2.0. Scope

- 2.1. This provincial clinical guideline applies to all staff working in a peritoneal dialysis unit in Manitoba that provide care to patients with chronic kidney disease.
- 2.2. This provincial clinical guideline applies to the assessment of peritoneal dialysis prescription adequacy for patients utilizing Peritoneal Dialysis (PD) therapy. It establishes standardized procedures and evidence-based practices to ensure accurate and consistent evaluation of dialysis effectiveness, supporting optimal patient outcomes and timely adjustments to therapy as needed.

3.0. Definitions

- 3.1. **Defined Terms**

- 3.1.1 **Automated Peritoneal Dialysis** is a form of home dialysis treatment for people with kidney failure. It uses the lining of the abdomen (the peritoneum) to filter waste and excess fluids from the blood, and it's typically performed overnight using a machine called a cycler.
- 3.1.2 **Continuous Ambulatory Peritoneal Dialysis** is a manual form of peritoneal dialysis that includes the filling and emptying of your abdomen with dialysate which is called an exchange. An exchange may be done 3 to 5 times during the day, and once during the night to remove wastes, chemicals, and extra fluid from your body.
- 3.1.3 **Kt/V (Adequacy Measurement):** A key measure used in dialysis to quantify how effectively waste products (mainly urea) are being removed from a patient's blood. ($K = \text{Clearance} \times t = \text{time} / V = \text{Volume}$)
- 3.1.4 **Peritoneal Dialysis** is a type of dialysis used to treat people with kidney failure. Unlike hemodialysis, which filters blood outside the body using a machine, peritoneal dialysis uses the lining of your abdomen (the peritoneum) as a natural filter to remove waste, toxins, and excess fluids from the blood.

3.2. Abbreviations

- 3.2.1 **APD:** Automated Peritoneal Dialysis
- 3.2.2 **Kt/V (Adequacy Measurement):** Adequacy Test ($K = \text{Clearance} \times t = \text{time} / V = \text{Volume}$)
- 3.2.3 **PD:** Peritoneal Dialysis

3.3. Professional Groupings

- 3.3.1 **Nurse:** Refers to a Registered Nurse (RN), Registered Psychiatric Nurse (RPN), or Licensed Practical Nurse (LPN), and Nurse Practitioners (NPs).

4.0. Guideline

- 4.1. Ensure that peritoneal dialysis (PD) adequacy testing is performed safely, accurately, and in alignment with best evidence-based practice guidelines in Manitoba. Recommended Practice Resources have been developed to support and guide practitioners.

Disclaimer: Provincial Clinical Standards, Policies, and Guidelines guide clinical care and outline the responsibilities of the healthcare team. These resources supplement, but do not replace, professional self-regulation and individual accountability for clinical judgment. Please note that printed versions or versions posted on external web pages may not be current, as these documents are regularly reviewed and updated. Always refer to the Shared Health website for the most current version.

- 4.2. Consistency in the adequacy testing process is essential. Utilizing the same standardized approach each time enables effective monitoring of patient outcomes and facilitates timely, appropriate interventions when required.
- 4.3. All nurses who have successfully completed the required training and demonstrated competency are authorized to perform the procedures outlined in the Recommended Practice Resources listed in [5.0](#).
- 4.4. All staff (physicians, nurses, allied health staff, support staff, students, volunteers and others) are responsible for complying with [Routine Practices Protocol](#) and for tactfully calling a breach in practice, as appropriate.
- 4.5. All procedures and treatments involving equipment and supplies must strictly follow the manufacturer's recommendations. Ensure that every procedural step is aligned with these guidelines to maintain safety, effectiveness, and compliance with best practices.
- 4.6. At every patient interaction it is important to ensure that the guideline for use of two patient identifiers is conducted, as per the [Guideline for Identification of Clients Receiving Services from the Kidney Health Manitoba Team](#).

5.0. Procedure

- 5.1. Refer to Recommended Practice Resources:
 - 5.1.1 [Measuring Peritoneal Dialysis Adequacy: CAPD](#)
 - 5.1.2 [Measuring Peritoneal Dialysis Adequacy: CLARIA](#)
 - 5.1.3 [Measuring Peritoneal Dialysis Adequacy: AMIA](#)

6.0. Resources

- 6.1. Shared Health Four Moments of Hand Hygiene. (No Date). [Routine Practices](#). Hand Hygiene Education for Staff.
- 6.2. Shared Health [Guideline for Identification of Clients Receiving Services from the Kidney Health Manitoba Team](#). (2021). 80.10.01 Kidney Health Manitoba.
- 6.3. Shared Health [Point of Care Risk Assessment \(PCRA\) For Personal Protective Equipment \(PPE\) Selection](#). (2023).
- 6.4. Shared Health [Routine Practices Protocol](#). (2024).

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7.0. References

- 7.1. Patterson, P. A., Neumann, J. L. & Chavies, T. L. (2022). Peritoneal Dialysis. Bodin, S.M. (Editor). Contemporary Nephrology Nursing (4th Edition). Anthony J. Jannetti, Pitman: New Jersey. pp. 285 – 331.
- 7.2. Todd, L., Ales, L.M. & Lambertson, K. (2020) Peritoneal Dialysis. Counts, C.S. (Editor). Core Curriculum for Nephrology Nursing (7th Edition). Anthony J. Jannetti, Pitman: New Jersey. pp 1127 – 1221.
- 7.3. Vantive Amia Automated PD System Clinician Handbook. (2016). Baxter Healthcare Corporation. Deerfield, Illinois. 07-19-27-500C1.
- 7.4. Vantive Homechoice Claria APD System Clinician Guide (2020). Baxter Healthcare Corporation. Deerfield, Illinois. 07-19-00-1577C1.

8.0. Contact(s)

- 8.1. **Document Sponsor:** Lead – Provincial Clinical Integration, Health Service Integration & Quality – Shared Health
- 8.2. **Document Owner(s):** Peritoneal Dialysis Policy & Procedure Working Group, Kidney Health Manitoba – Shared Health

Document Review History

- 18-AUG-2025 – Infection Prevention & Control - [Endorsed]
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