

Q4 ALL OF THE FOLLOWING CAN BE COMPLICATIONS OF THIS PRESCRIPTION EXCEPT:

- A. Hyponatremia
- B. Increased thirst
- C. Insufficient ultrafiltration

The correct answer is A.

Decreasing dwell time, especially in low transporters, will increase the risk of sodium sieving. The flux of free water into the peritoneal space via aquaporin channels (based on the three-pore model) is greatest at the onset of the dialysate dwell. This is because the concentration gradient between the peritoneum and plasma is highest at the beginning of the dwell. The aquaporin channels are activated by the high concentration of glucose exposure and result in free water transport from the intravascular to peritoneal space. With time, the small pores (based on the three-pore model) will work to transport small solutes such as electrolytes and urea. Due to the patient's low-average transport status, he is at higher risk of increased free water loss relative to sodium loss as the small pores will have a slower onset of action. This can result in hypernatremia, increased thirst, and even inadequate ultrafiltration due to insufficient sodium loss.

Further reading:

<https://journals.sagepub.com/doi/epub/10.1177/0896860820982218>

<https://www.pdempowers.com/hcp/academy/webinars-on-demand/peritoneal-membrane-physiology-sodium-sieving>