Q3 WHICH OF THE FOLLOWING IS THE LEAST HELPFUL IN AUGMENTING CLEARANCE?

A. Add a 1.5L, 1.5% dextrose, last fill
B. Add a 5th evening cycle, and keep total cycler time to 9 hours.
C. Keep 4 cycles and increase total time to 11 hours.
D. Transition to CADP with 4 manual exchanges spaced out throughout the day

The correct answer is B.

Being a low transporter, this patient's clearance will benefit from longer dwell times to maximize clearance. The D/P of 0.48 of creatinine suggest that after 4 hours of dwell time, the dialysate concentration of creatinine is 48% of the plasma concentration. This means the dialysate is not fully saturated, so theoretically solute will continue to travel into dialysate if the dwell is kept longer.
Note that as the patient's current prescription stands (NIPD 4 exchanges over 9 hours), the average dwell time for a cycle (excluding fill and drain volumes) is near 2 hours. Being a low transporter, it is likely that the D/P of creatinine is much less than 0.48 (48% saturated) at the end of a two 2-hour dwell. If 5^{th} cycle is added with no changes to the cycler time (Choice B), the time of each cycle will be cut even shorter which will result in an even lower D/P of creatinine. In addition, an additional cycle will result in greater "wasted time" due to additional time to infuse and drain the dialysate.

All the other choices (A, C, and D) will take advantage of the patient's low transport status by increasing to total time of dialysis. Choices A and D will have the biggest improvement in clearance because of the greater total dialysis time. Choice C will allow for each cycle to be spaced out longer allowing more time for exchange.

Further reading:
https://journals.sagepub.com/doi/epub/10.1177/0896860820982218

https://qxmd.com/wp-content/uploads/2017/10/USMP_76_14-00012_2-PD-Prescription-Management-Guide_FINAL.pdf

https://www.kidneywi.org/wp-content/uploads/2020/11/AM-4-The-PD-Prescription.pdf