

Q1. **

Continuous renal replacement therapy (CRRT)

This notebook overviews the process of defining CRRT: a treatment used to dialyse or filter a patient's blood continuously. Key to CRRT is its lower speed compared to conventional dialysis: **avoidance of rapid solute/fluid loss** is suspected to be the main reason why CRRT tends to be tolerated better than intermittent hemodialysis.

Q2. ***

Reasons for inclusion/exclusion

- CRRT Setting – yes (included) – these settings are only documented when a patient is receiving CRRT.
- Access lines– no (excluded) – these ITEMIDs are not included as the presence of an access line does *not* guarantee that CRRT is being delivered. While having an access line is a requirement of performing CRRT, these lines are present even when a patient is not actively being hemodialysed.
- Peritoneal dialysis – no (excluded) – Peritoneal dialysis is a different form of dialysis, and is not CRRT
- Hemodialysis – no (excluded) – Similar as above, hemodialysis is a different form of dialysis and is not CRRT

Q3.*

Out[4]:

	icustay_id	label	charttime	value	valueuom
0	246866	ART Lumen Volume	2161-12-11 20:00:00	1.3	mL
1	246866	VEN Lumen Volume	2161-12-11 20:00:00	1.2	mL
2	246866	Access Pressure	2161-12-11 23:43:00	-87	mmHg
3	246866	Blood Flow (ml/min)	2161-12-11 23:43:00	200	ml/min
4	246866	Citrate (ACD-A)	2161-12-11 23:43:00	0	ml/hr

Above we can see that **ART Lumen Volume and VEN Lumen Volume** are documented at a drastically different time than the other settings. Upon discussion with a clinical expert, they confirmed that this is expected, as these volumes indicate settings to keep open the line and are not directly relevant to the administration of CRRT – at best they are superfluous and at

worst they can mislead the start/stop times. As a result ART Lumen Volume and VEN Lumen Volume are excluded.

Q. **

227290 - CRRT mode

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In [11]: print_itemid_info(con, 227290)
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Values for 227290 - CRRT mode...

	value	number_of_patients	number_of_observations
0	CVVH	40	1280
1	CVVHD	24	583
2	CVVHDF	498	25533
3	SCUF	1	7

While all of this looks good, it's feasible that the documentation of the CRRT mode is not done directly concurrent to the actual administration of CRRT. We thus investigate whether CRRT mode is available for all patients with a CRRT setting.

Q.**

The only contentious ITEMID is 225436 (**CRRT Filter Change**). This ITEMID indicates a break from CRRT, and it reinitiates at the end of this change. While in principle this could be used as an end time, documentation on it is not 100%, and as recommended by staff it's easier to ignore this and use the **filter change field from CHARTEVENTS** to define the end of CRRT events.

두개가 무슨차이일까?