**Supplemental Digital Content 4**

Absorbent exhaustion notice during first cases of the day

This email was distributed to all providers on November 13, 2014 about first case of the day problems related to exhausted absorbent.

Date: 11/13/14 9:10 AM

Subject: Litholyme exhaustion during first cases of the day

We are experiencing a problem with having to change the litholyme during first cases of the day when the final case in the OR from the previous case had a high FiCO2 but the absorbent was not changed. During induction with high FGF, there is no rebreathing, but as soon as the FGF is dropped to our target of 1 L/min, it becomes apparent that the litholyme is exhausted (the FiCO2 begins to rise rapidly).

Currently an alert is sent to the anesthesia techs about rebreathing when they get the room turnover notice, but at the end of the day it is often not possible for them to change out all of the canisters.

We want to avoid having to change the litholyme in the middle of cases whenever possible, as this is disruptive, results in a drop in the FiAgent concentration (with a risk of an inadequate depth of anesthesia), and may result in a machine leak if the canister does not seal properly.

We are changing the notification and monitoring process as follows:

1. If you note significant rebreathing during your last case (FiCO2 consistently > 3 mm Hg), please tape a note to the anesthesia machine screen asking the anesthesia tech to change the litholyme or change it yourself. This can then be done that night or the next morning prior to the first case start either by the tech or the anesthesia provider. Remove the note when the litholyme is changed.

2. A notice will go out to the techs at 6:00 AM each morning asking them to check ORs that reported a high FiCO2 during the last case done in that room. If the litholyme appears to be depleted, then it should be changed. If the tech knows that the litholyme was replaced at the end of the previous day, then it does not need to be replaced.

3. If the litholyme needs is changed in the middle of the case (which is going to happen occasionally regardless of what we do), then please note this as an event in Innovian. It's the last event in the favorite section. This will allow us to track how often this is occurring.

Thank you for your assistance with this safety initiative.