

## Effects of balanced infusion fluids on acid base and kidney function

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In the busy practice of cardiac anesthesia, it is all too easy to forget that choice and volume of fluid administration may profoundly influence your patient's physiology. Regardless of their route of administration, for example as pump prime or intravenously, fluids should be regarded as drugs.

An important aspect of fluid resuscitation is its effect on acid-base physiology. Anesthesia textbooks state that abnormal  $[H^+]$  impairs every single organ system. This is caused by alterations in protein, enzyme and cell function. While this is a physiological truth, it is not very useful in daily clinical practice of perioperative medicine.

The Stewart approach to acid base makes it easy to understand the impact of fluid administration on acid-base balance. The talk will use the Stewart approach to focus on aspects of acid-base physiology that are relevant to most anesthesiologists. It will become clear that acid-base disorders may have a major clinical impact both on the patient scheduled for anesthesia and anesthetic drugs. But even more importantly, many clinical interventions by anesthesiologists may actually profoundly

influence  $[H^+]$  itself. In addition the effect of balanced versus unbalanced fluids on kidney function, coagulation and outcome will be discussed.

### References

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