Anion Gap reference range

My institution 4 - 15 mmol/L

What's your's?

 David Alter

16 Replies

 Fatma Safar

Which equation do you use?
In our lab 10-20 mmol/L using this equation AG = (Na+ K) - (HCO3+ Cl)

 David Alter

In reply to Fatma Safar:

excellent reply!!

My institution 4 - 15 mmol/L (WITHOUT K)

Rajeevan Selvaratnam

I recently gave a talk on this topic at the last ACLPS meeting and the abstract should be published on the ACLPS website (I hope soon). Briefly, our institution initially used the reference interval of 6 -17 mmol/L with the direct ion selective electrode (ISE) for electrolyte measurement on the OCD Vitros®. However, following transition to our new instrument (indirect ISE), we adjusted it to 3-14 mmol/L. In general, the anion gap reference intervals have fallen over the course of time. In both case, the equation was AG = [Na] – [Cl] – [HCO3].

Thomas Kampfrath

We just increased our Anion Gap RR from 7 - 15 mmol/L to 10 - 18 mmol/L. Due to a change in our chloride assay which caused a drop of our chloride results. We dont use potassium in our equation.

Brooke Katzman

Males and females ≥ 7 years: 7-15 mmol/L (without K)

Rajeevan Selvaratnam

In reply to Thomas Kampfrath:

That's interesting Thomas. What methodology are you using to measure chloride? I ask because with indirect ISE, I believe chloride sensitivity has increased.

Bryan Robeson

We use 2 - 16 mmol/L, equation without K.

 James Miller

U of Louisville, 7-15 mmol/L, without K+, Vitros, central 95% of patient data.
P.S. I did not know you started this fascinating thread until today, 19 days after its beginning.

Jim Miller, Ph.D., Professor of Pathology & Lab. Med, Univ. of Louisville

 James Miller

In reply to Thomas Kampfrath:

Thomas, like Rajeevan, I'd like to know what your old and new chloride methods are.

Jim Miller, Ph.D., Professor of Pathology & Lab. Med, Univ. of Louisville

Thomas Kampfrath

In reply to James Miller:

Hi Jim, we used the Roche Modular and switched to the Roche Cobas - same method but different ISE measurement cell (according to Roche the cause of the chloride change).

 James Miller

In reply to Rajeevan Selvaratnam:

Rajeevan, I got Thomas to answer your question. Now I have the same question for you. What is your new indirect ISE method? We will be changing from Vitros to Beckman-Coulter in a few months. The data to calcutate the change has probably been generated, but I don't have it yet.

Jim Miller, Ph.D., Professor of Pathology & Lab. Med, Univ. of Louisville

 Fatma Safar

In reply to James Miller:

Hello,
I'm following all the responses and the discussions regarding the anion gap range. Some mentioned that they changed the range because they got lower results for chloride when used different method ..etc
For those who mentioned specifically about the change of the method and the range, can I know please how did you calculate the new reference range for anion gap based on the change of the method of measurement of chloride for example?
Thank you for this interesting discussion

 Fatma Safar

In reply to Fatma Safar:

My first answer in this discussion I mentioned that our range 10-20 mmol/l (we include k in the equation). Actually, upper limit was changed to 18 instead of 20 mmol/l

Thomas Kampfrath

In reply to Fatma Safar:

Hi Fatma, I basically came up with the new range based on overall monthly averages change. I looked at sodium, chloride and bicarb and anion gap. The overall monthly average change was exactly 3 mmol/L with the chloride dropping of 2.1 - 2.5 mmol/L. I hope this helps, Thomas

Fatma Safar

In reply to Thomas Kampfrath:

Thank you