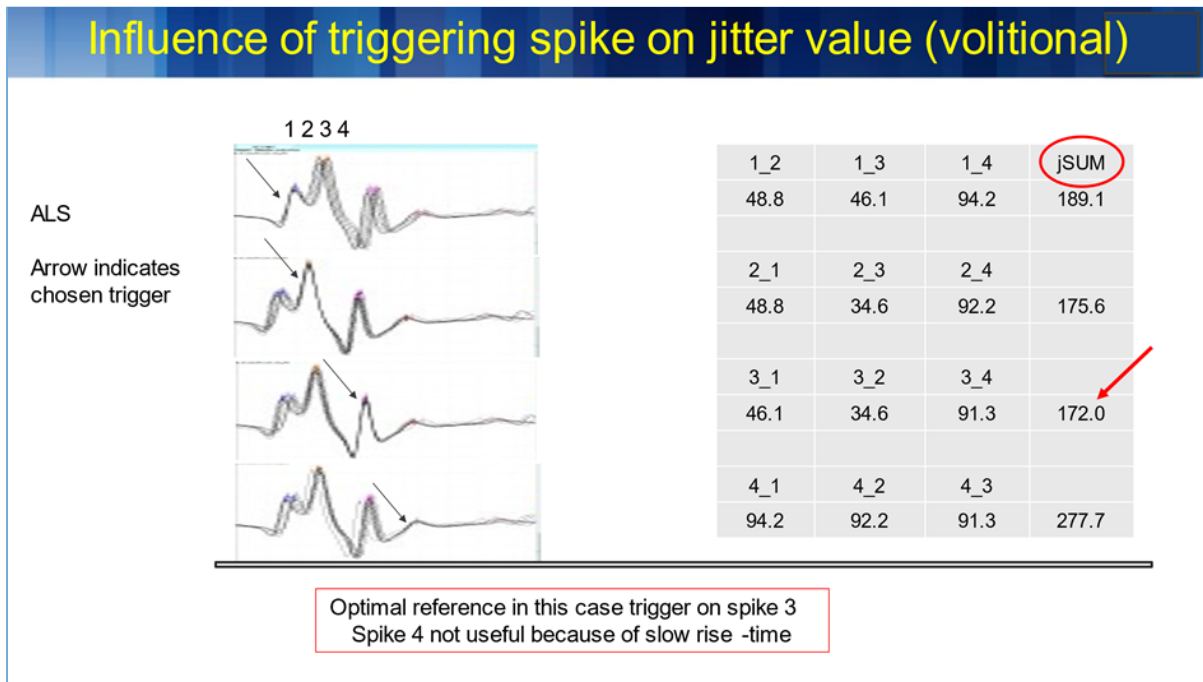# ErikS: Details around SFEMG 211025

The possibility to **retrigger a complex signal based on jSUM** (even automatically) is great.

This means that we can trigger even on signals that do not fulfill criteria, but happen to be the largest, chosen for trig. In post processing, a perfect signal will be chosen! This may make the recording faster and easier in complex signals.

NOTE: only in software with simultaneous jitter measurements in a complex.

Thus, here we stim on spike 2 (largest) but trig on spike 3 is the best, automatically corrected.

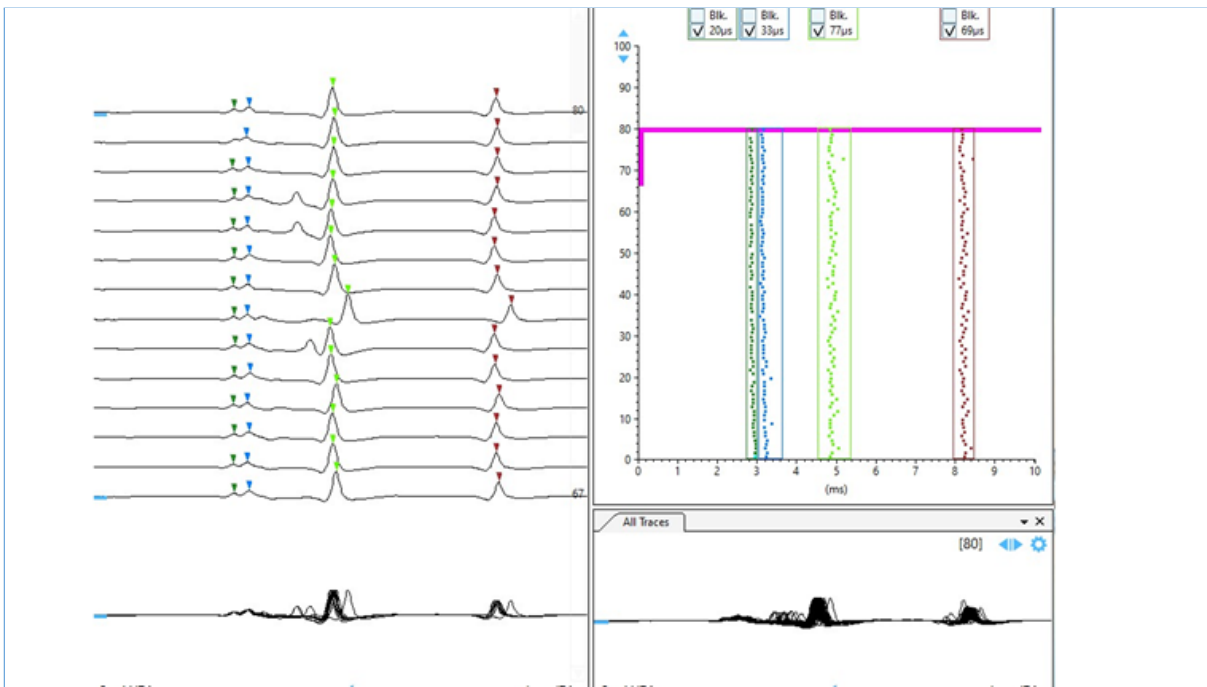**Automatic trigger** is accepted with the above explanation.
This makes signal collection faster and easier
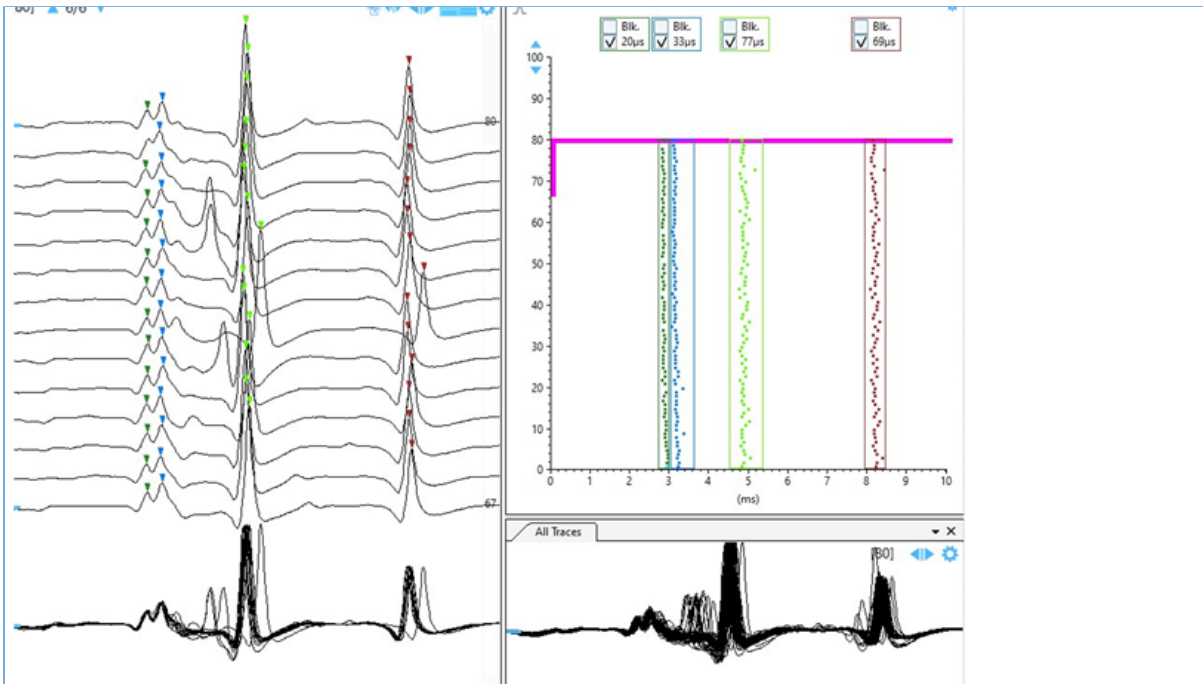NOTE: only in software with simultaneous jitter measurements in a complex.

Use of spikes from the same axon in stim, even with subliminal stimulation strength

Sometimes we see spike pairs that come and go together and we cannot increase stim more due to over-stim. Here it is permissible to trigger on one of these spikes and make the measurement between the two spikes, like in vol SFEMG. If much blocking it may give some VRF, but with low stim rate and with low blocking rate, no problems.
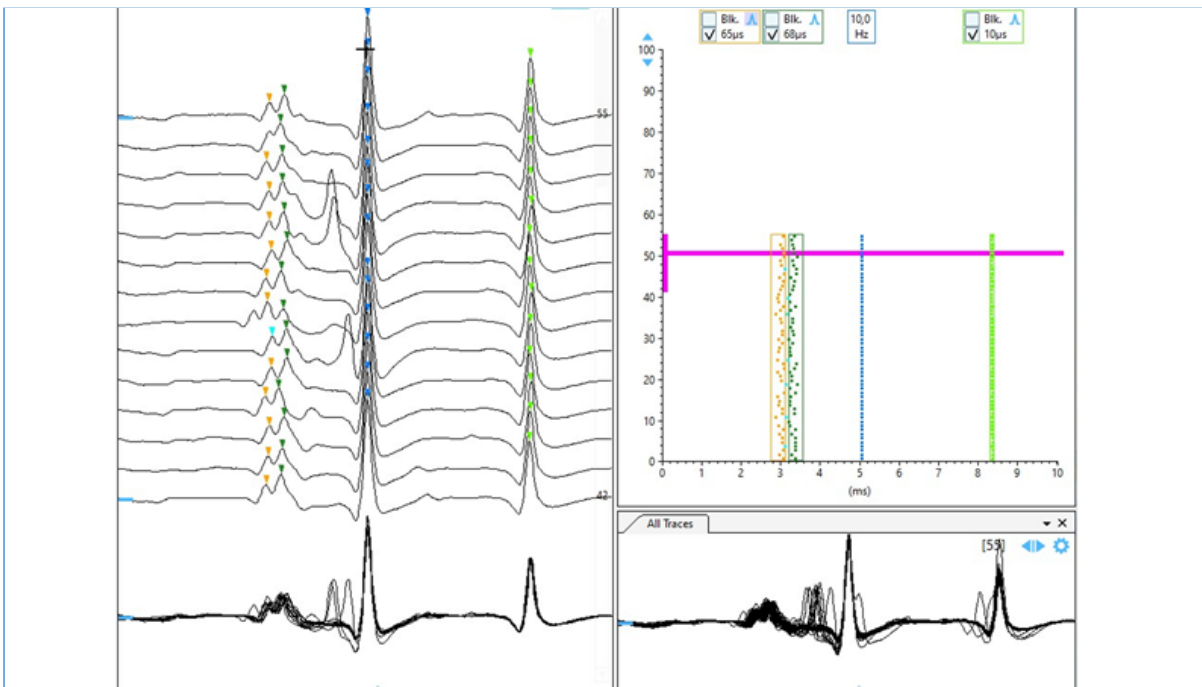NOTE: only in software with possibilities to trigger on individual spikes in stim SFEMG.

The two large spikes definitely have common jitter
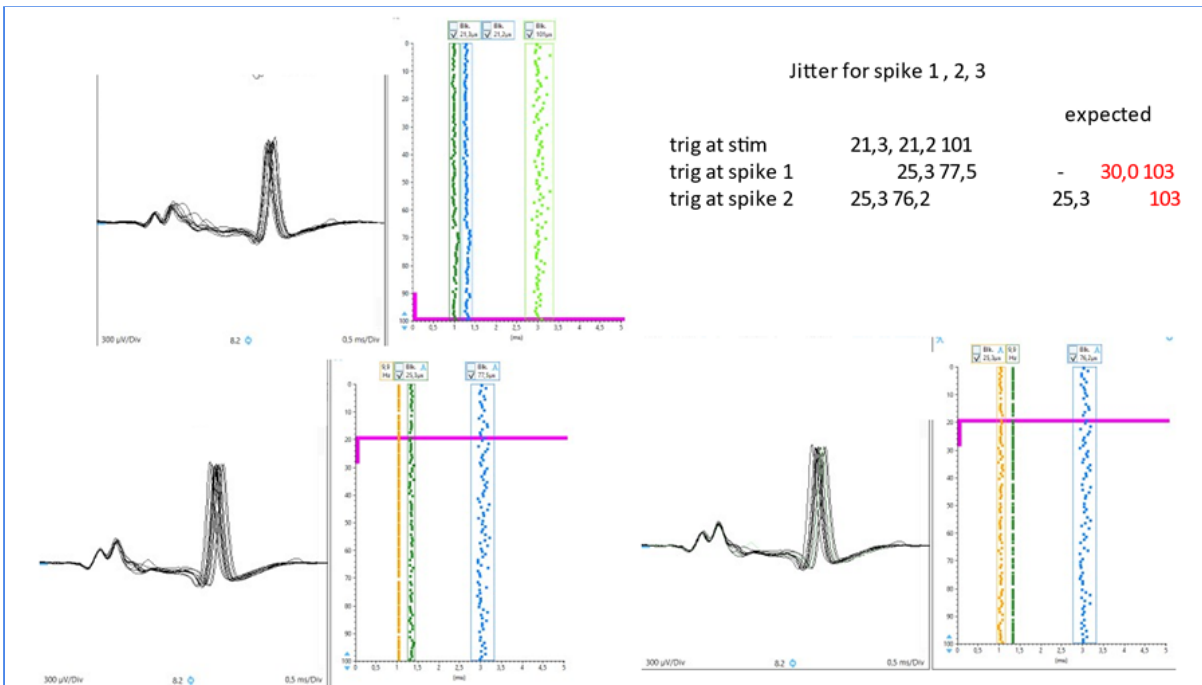

The jitter is 77 and 69

The jitter is 10 us between large spikes

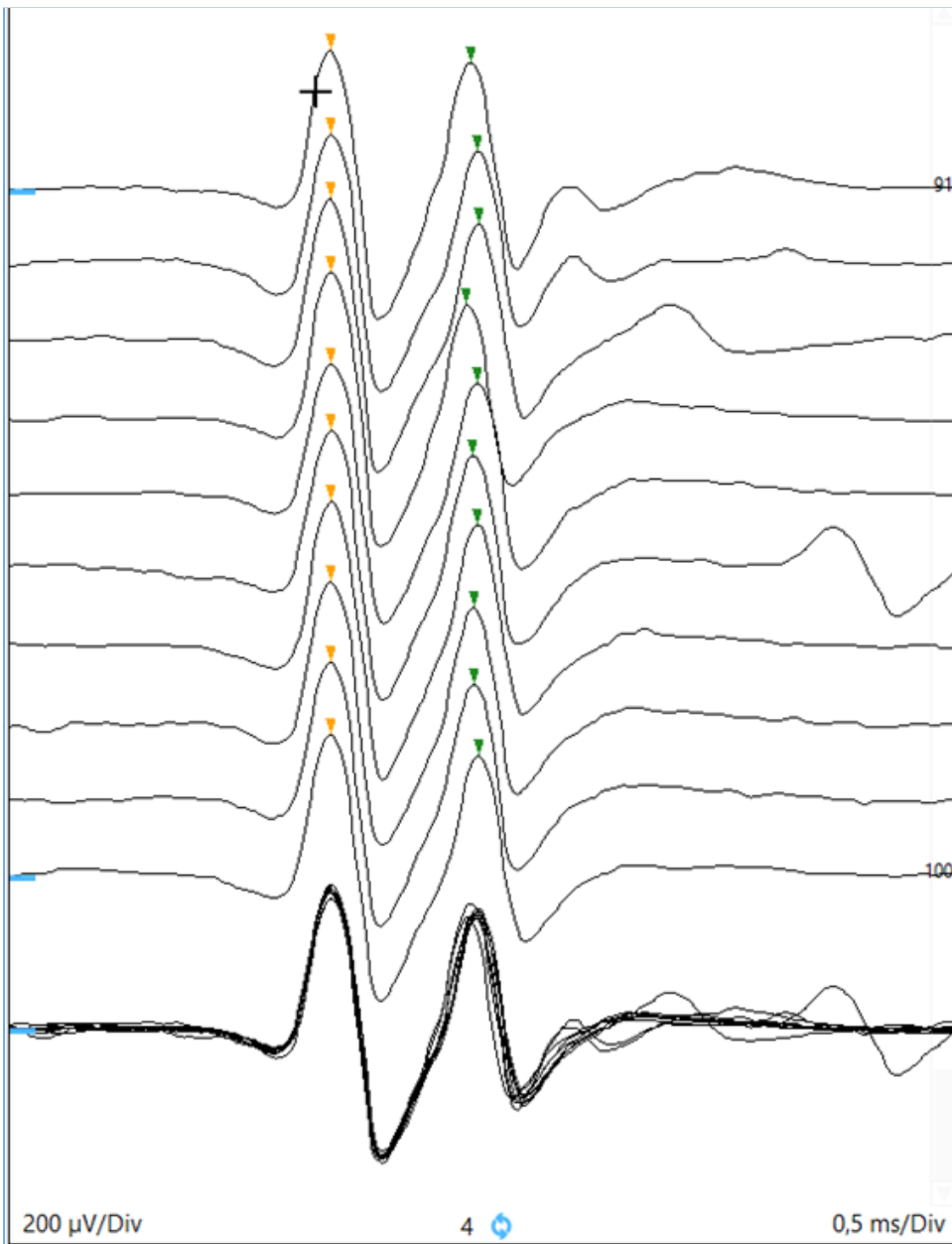Here I quantitate this little more in another example.

We measure jitter in regular way in stimSFEMG and get individual values. Then we measure jitter between two spikes. The result should be square root of summated jitter values in square. It the obtained jitter is lower than the expected, then there is a stim jitter imposed on spikes in the regular stim SFEMG.

Jitter for spike 1 , 2, 3

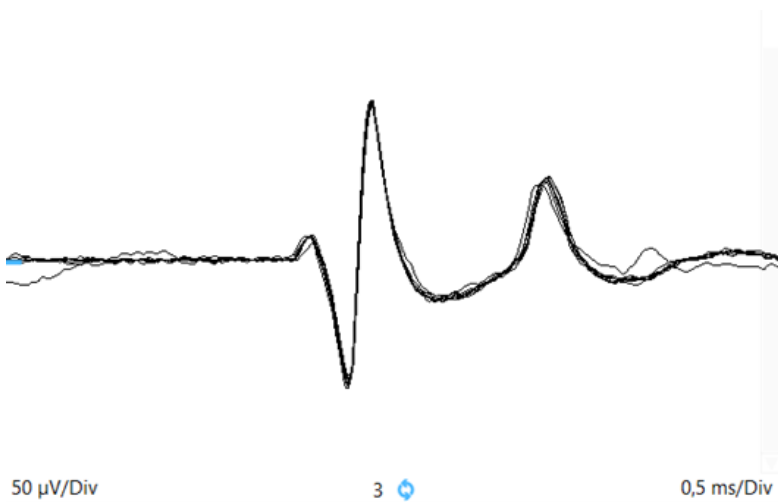|			expected
trig at stim	21,3, 21,2 101		
trig at spike 1	25,3 77,5	-	30,0 103
trig at spike 2	25,3 76,2	25,3	103

As seen, the measured jitter is 21 and we expect then 30 us between them. BUT we get 25. Thus the stim jitter has extra contribution from bad stim stability.

 Signal shape, shoulder sometimes acceptable

If the second signal rides and abruptly leaves the slow late slope of the first spike, then we get something that looks like a shoulder. In some articles, we have accepted these signals provided that the shoulder is below 50% of max ampl, i.e. away from the point of measurements, the peak. For level trig the definition must be different since measuring level may be around 50% of max ampl sometimes.

200 µV/Div   4 ⟳   0,5 ms/Div

The shoulder is just below 50% av max ampl.

50 µV/Div   3 ⟳   0,5 ms/Div

Looks like a shoulder on the 3rd spike that obviously has a relatively small initial positive phase, like the 1st and 2nd