

Sound Recording and Visualization



Insert stethoscope audio output into PDA audio input

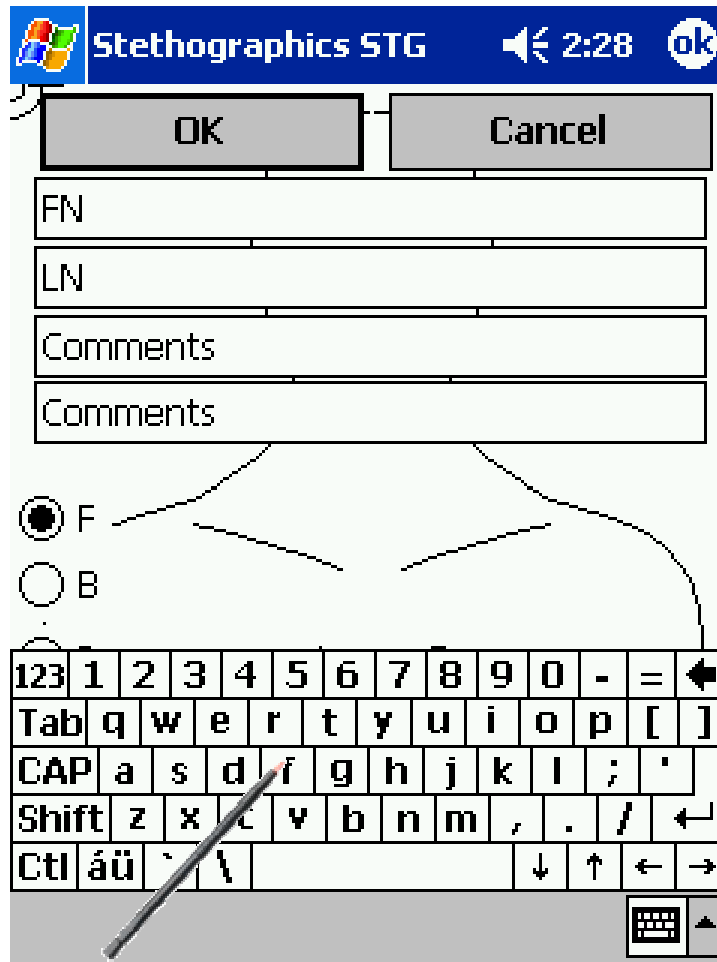


Press the **Start** button to start the Handheld STG software

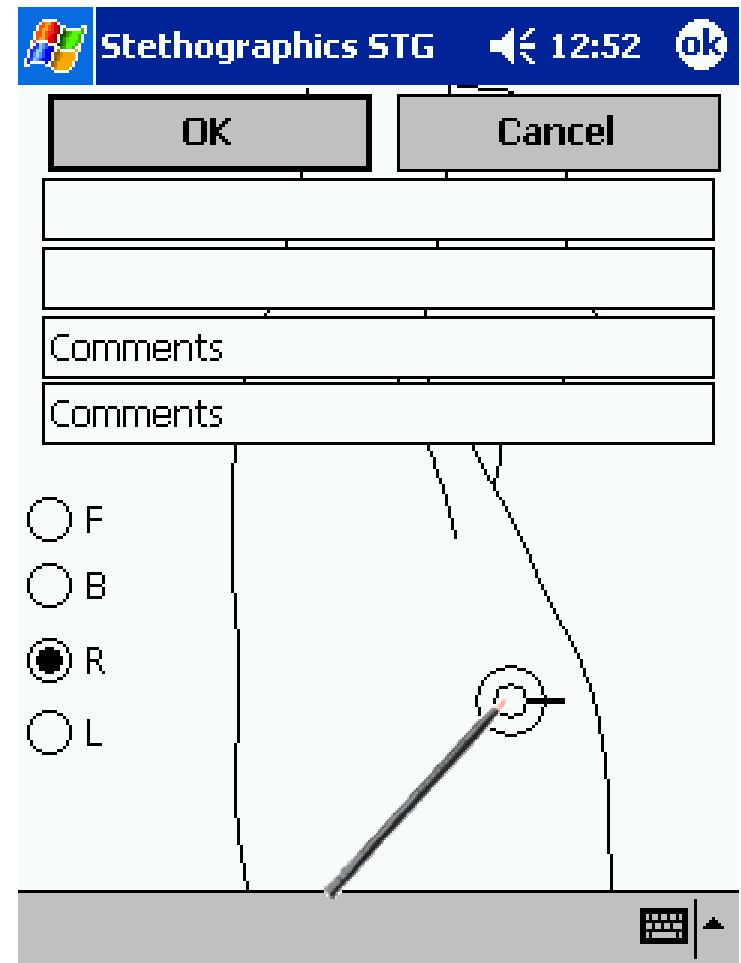
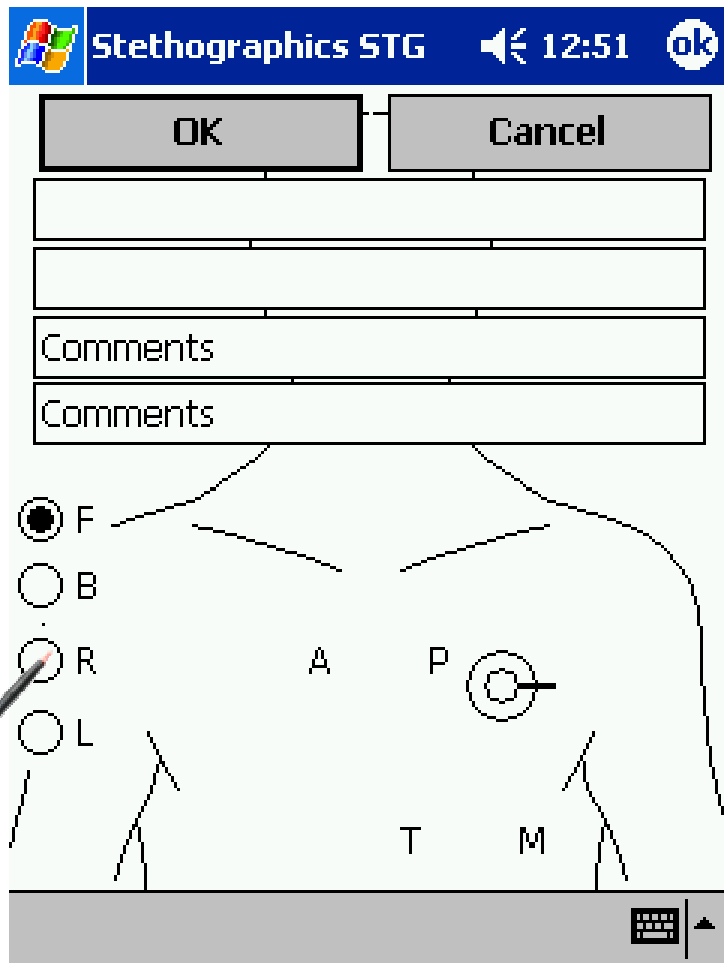




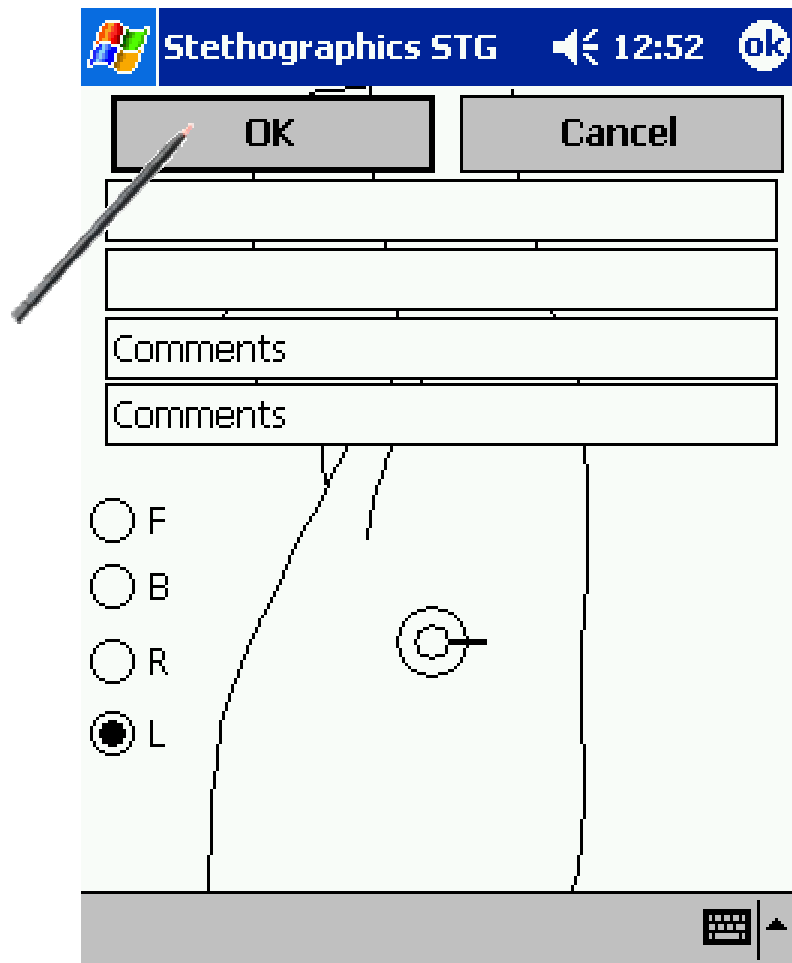
Press the left side of the **Navigation Button** to start recording



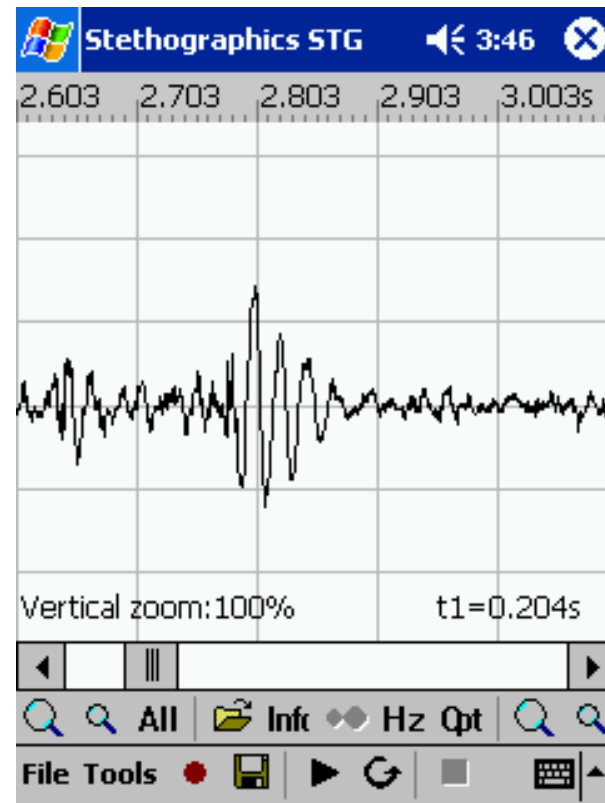
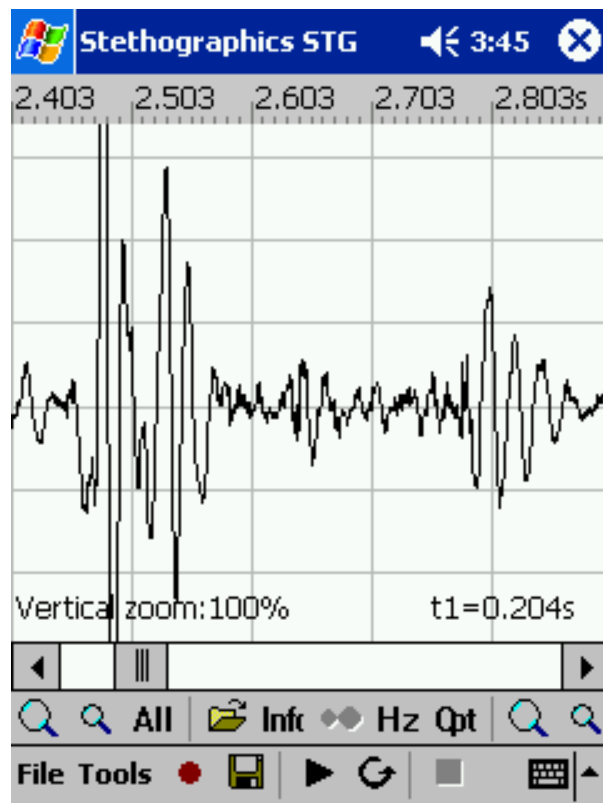
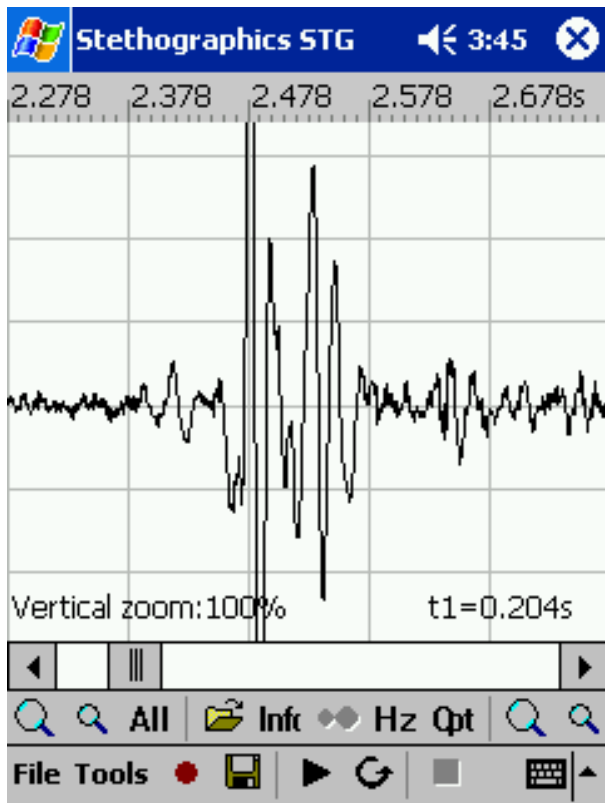
Type in patients' First and Last name



Indicate chest piece position



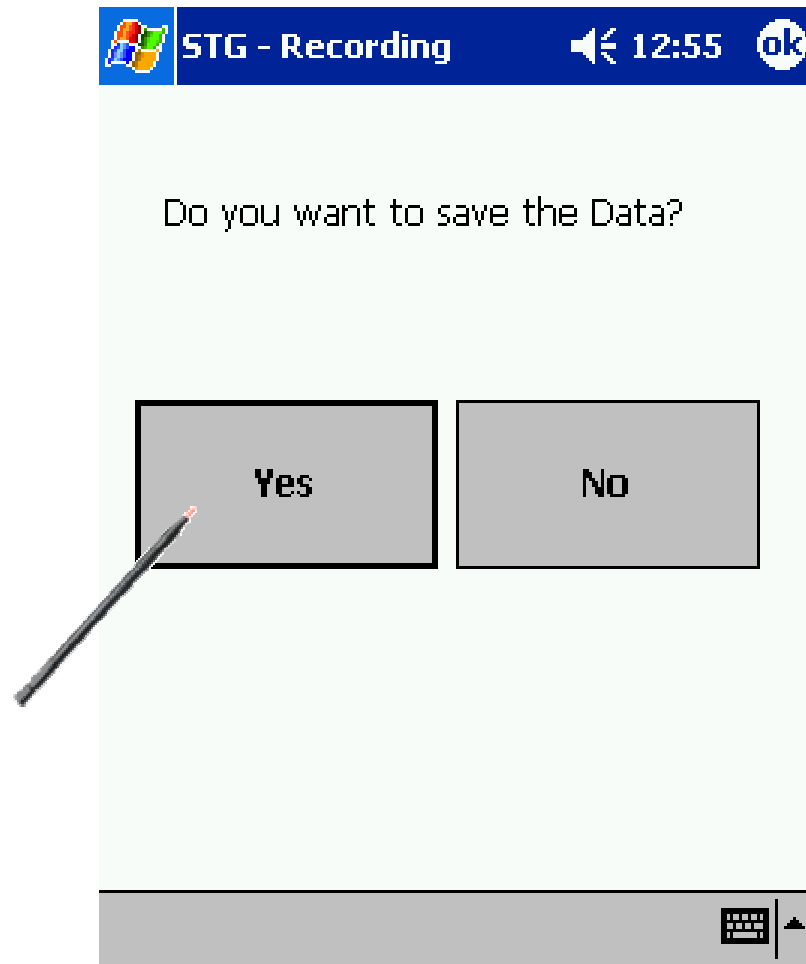
Tap **OK**



Recording has started (data is being acquired)



Press the right side of the **Navigation button** to stop recording



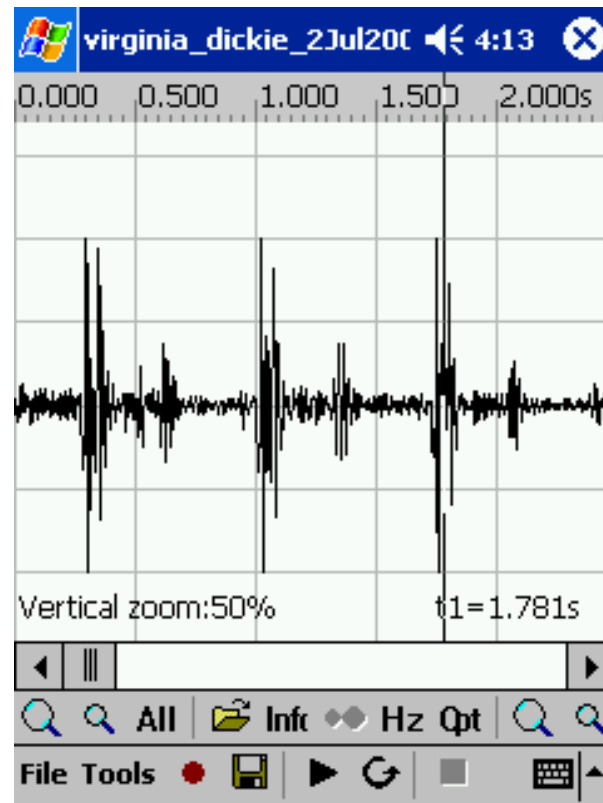
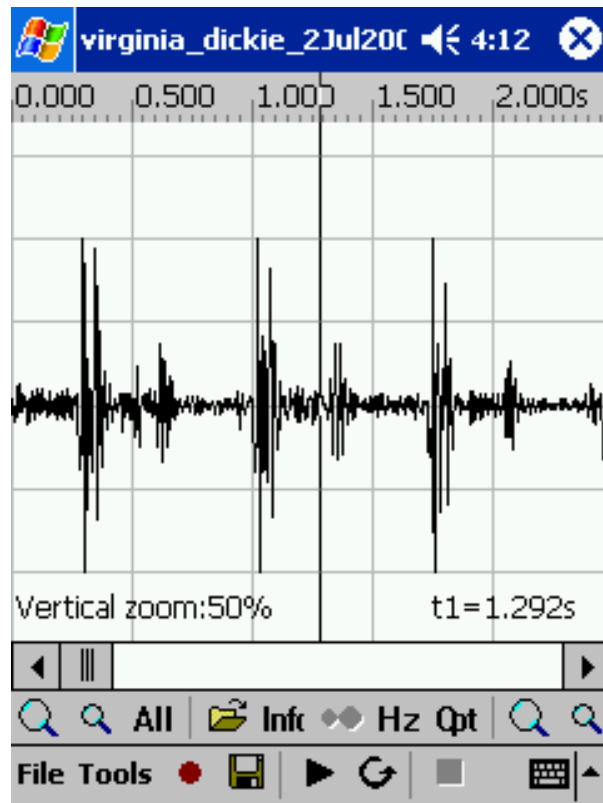
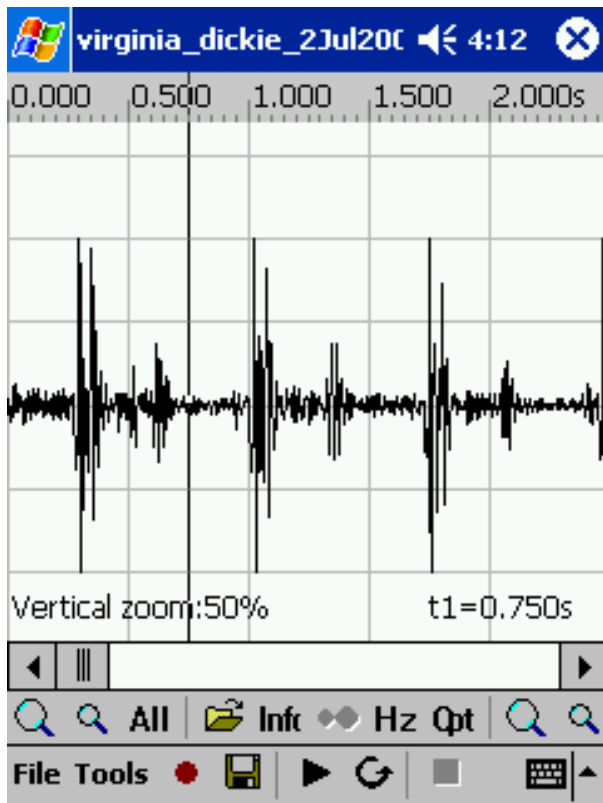
Tap the **Yes** button to Save the sound



Insert headphones into audio output of the PDA



Press the center of the **Navigation button** to play the sound



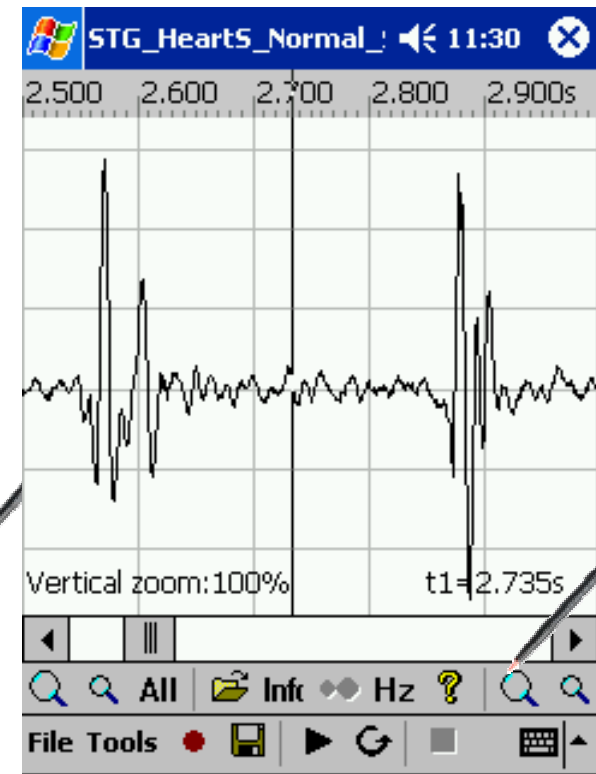
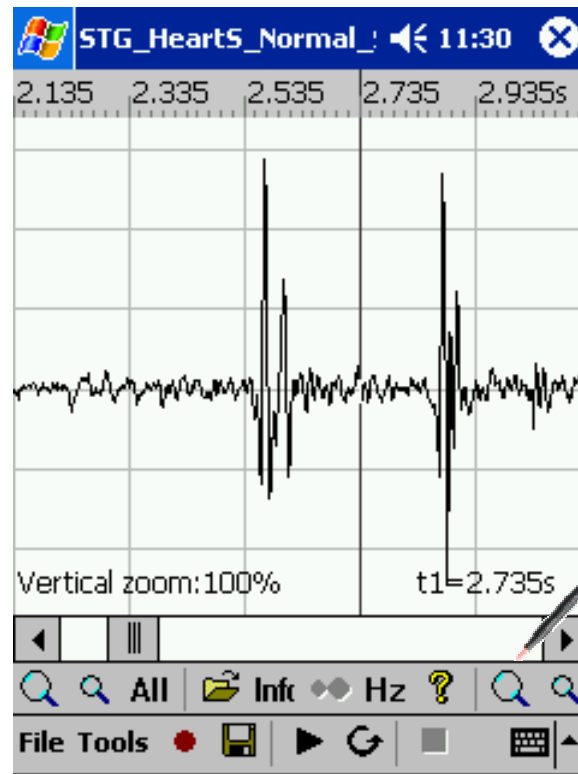
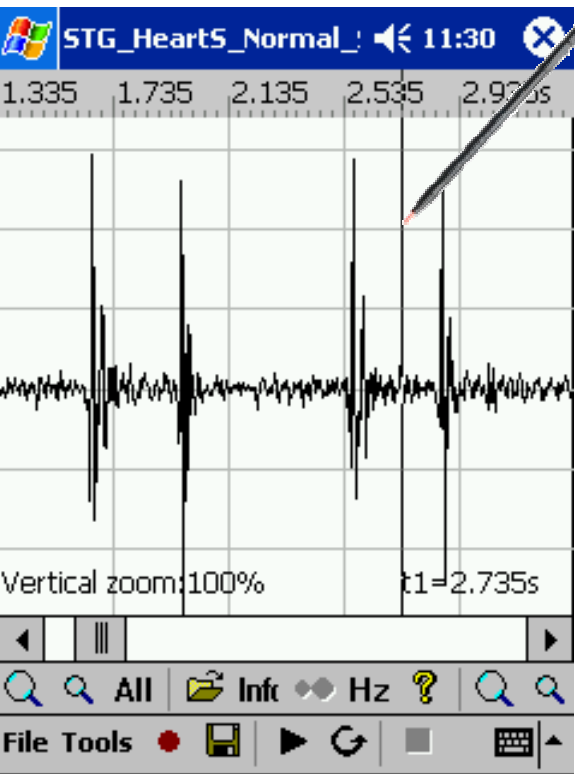
The sound is being played back. The cursor on the screen is synchronized with the sound.



Press the right side of the **Navigation button** to stop playback

Heart Sound Visualization

Normal 1st and 2nd heart sounds

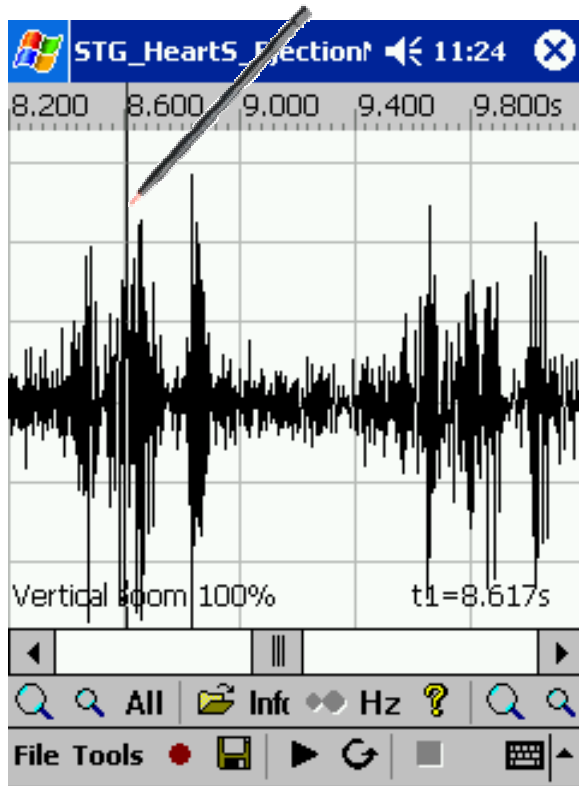


1. Tap on the waveform

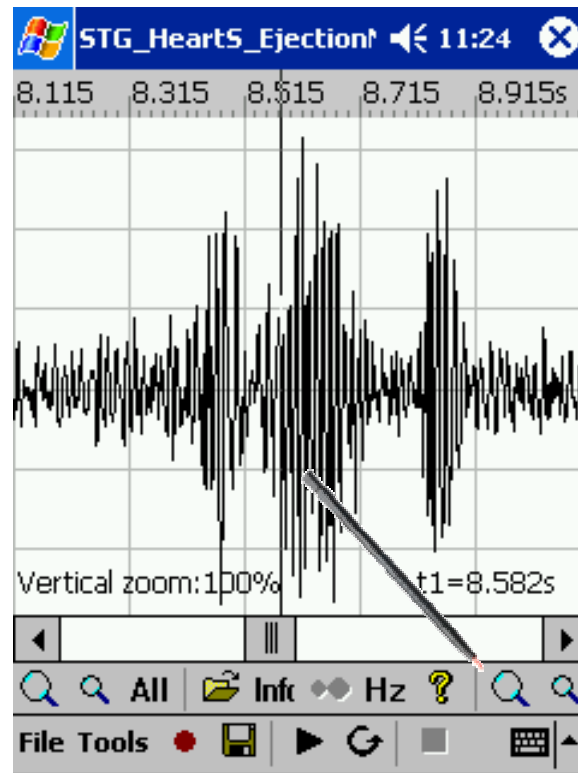
2. Tap on the zoom button to expand the signal horizontally

3. Tap again on the zoom button to further expand the signal.

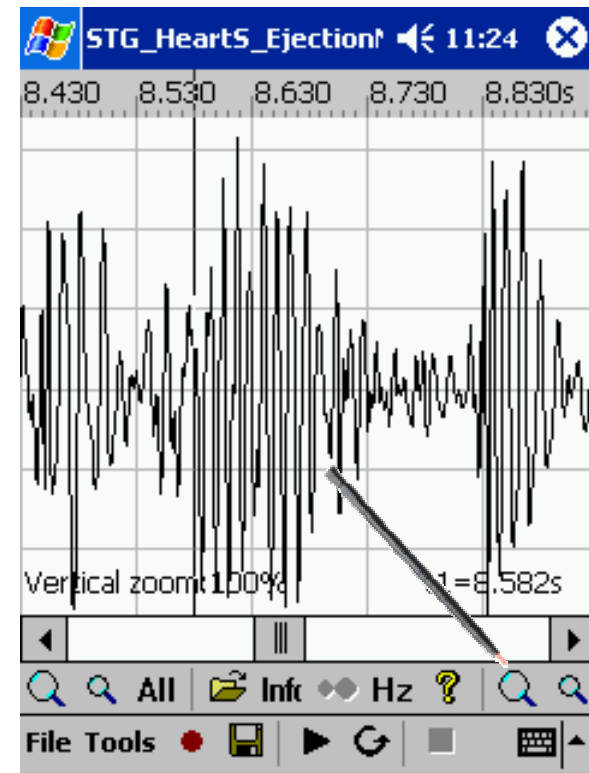
Well pronounced ejection murmur



1. Tap on the suspected murmur

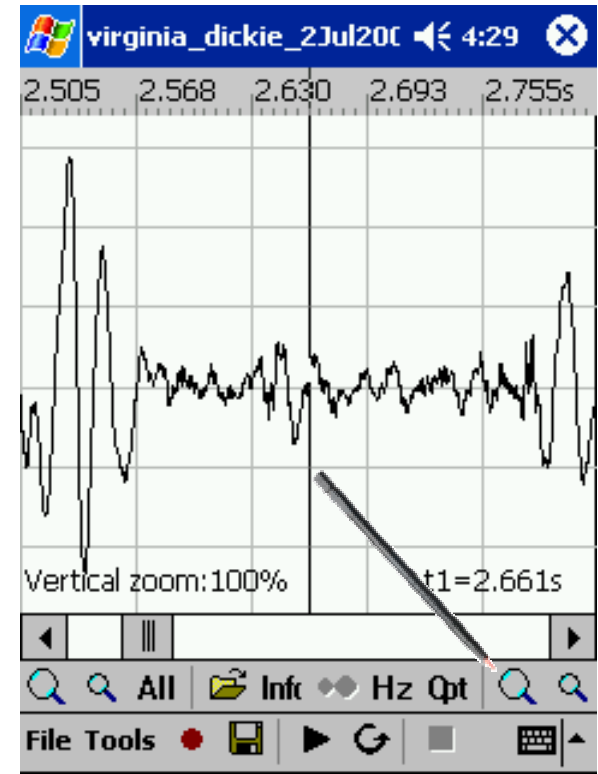
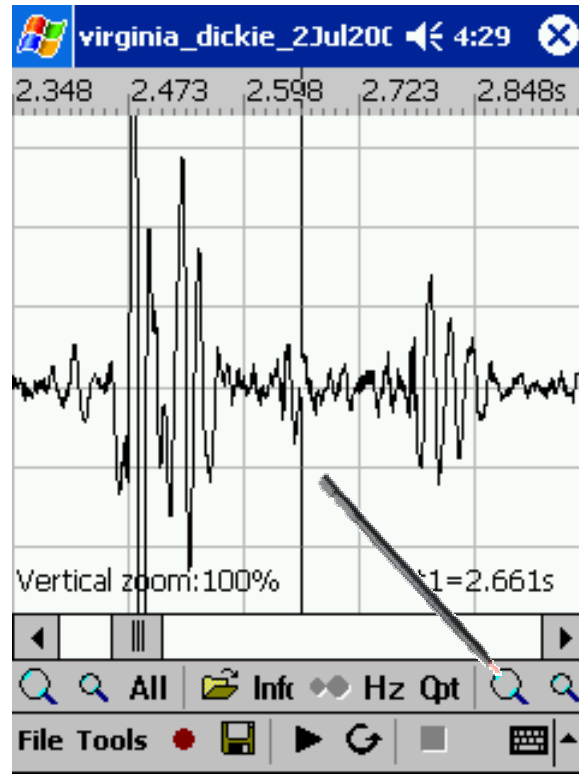
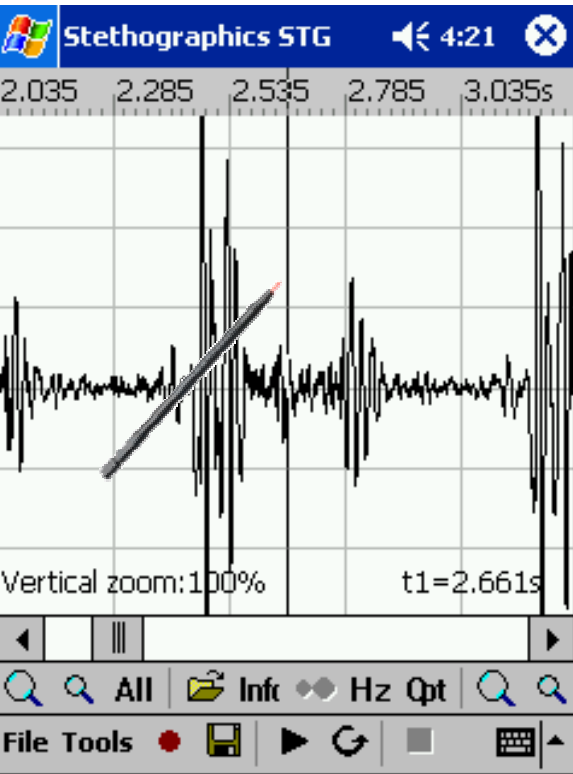


2. Tap on the zoom button to expand the signal horizontally



3. Tap again on the zoom button to further expand the signal.

Faint ejection murmur between 1st and 2nd heart sounds

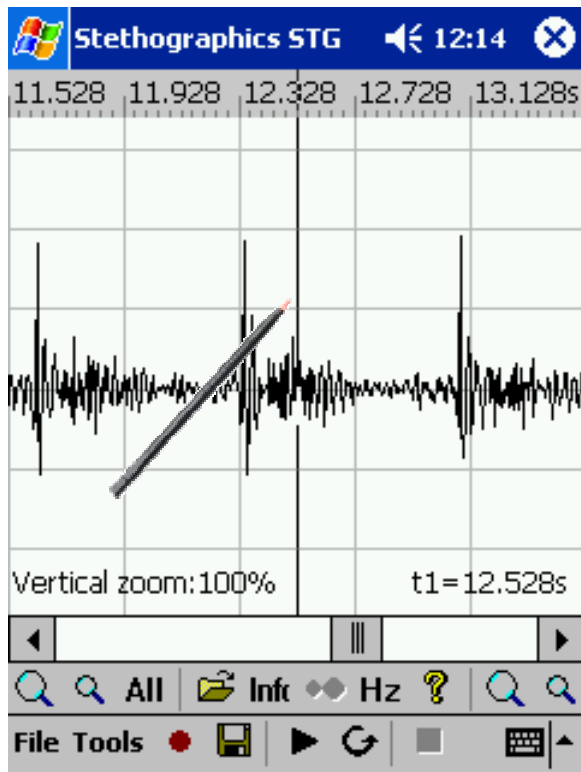


1. Tap on the suspected murmur

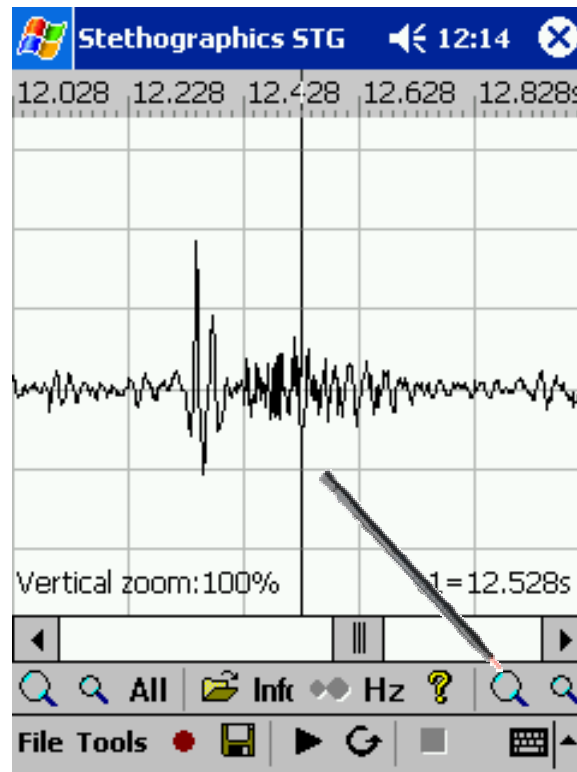
2. Tap on the zoom button to expand the signal horizontally

3. Tap again on the zoom button to further expand the signal. The faint murmur becomes obvious.

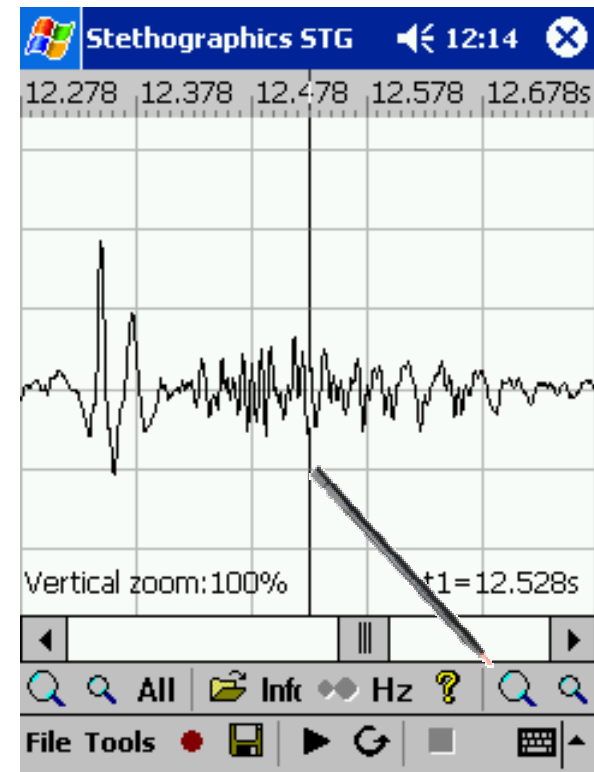
Aortic stenosis murmur



1. Tap on the suspected murmur



2. Tap on the zoom button to expand the signal horizontally

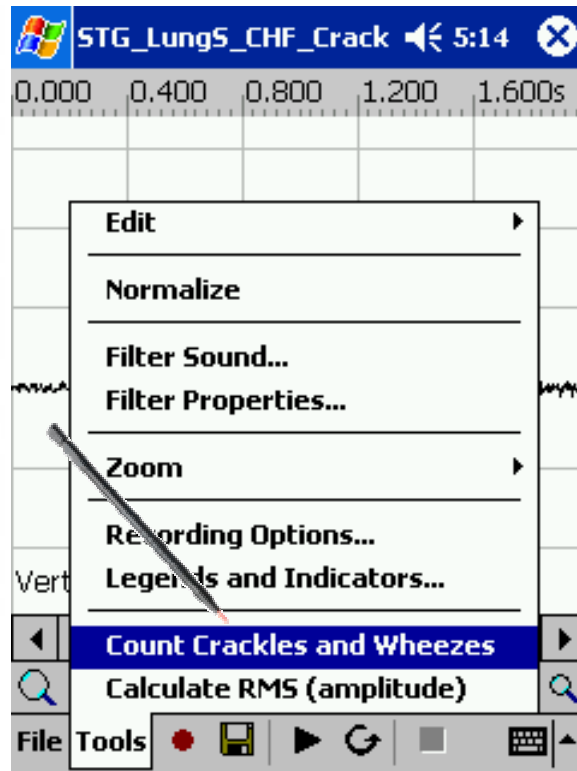


3. Tap again on the zoom button to further expand the signal.

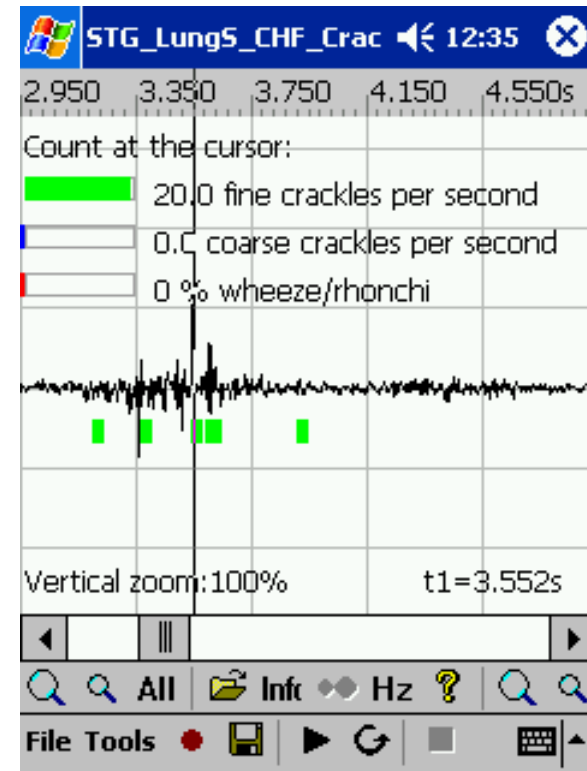
Crackle and Wheeze Analysis



1. Record sound

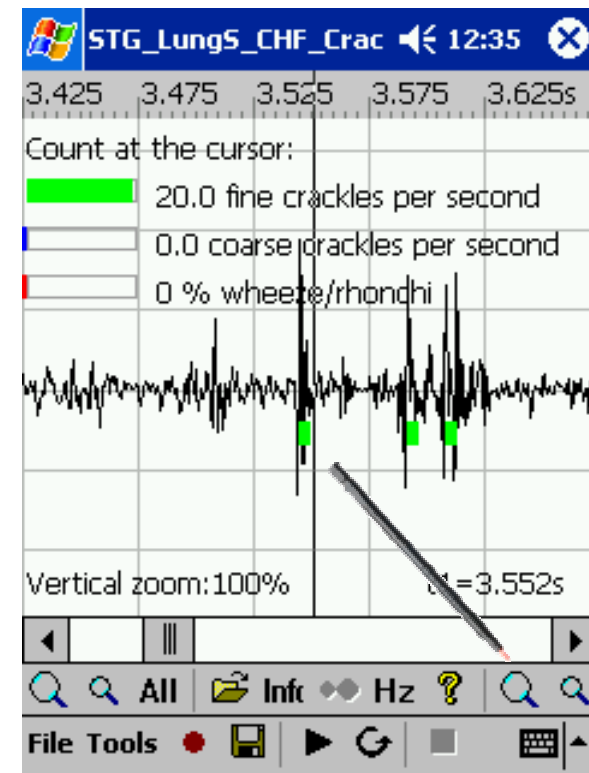
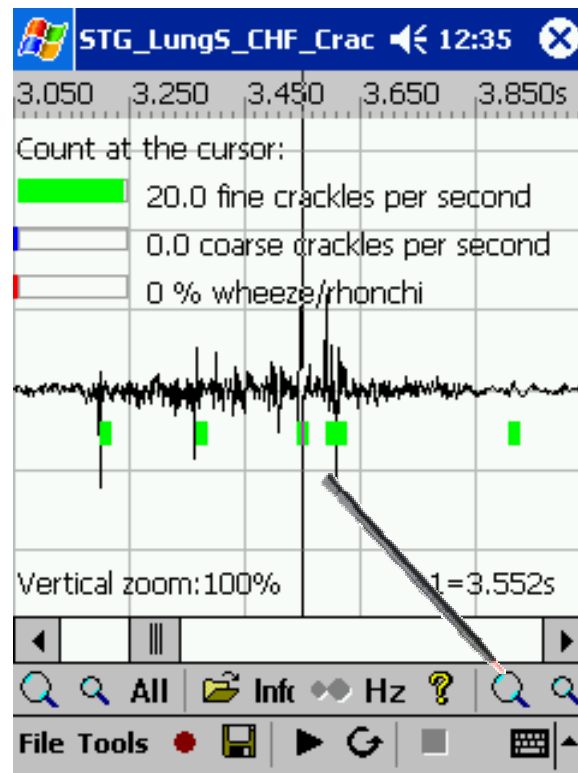
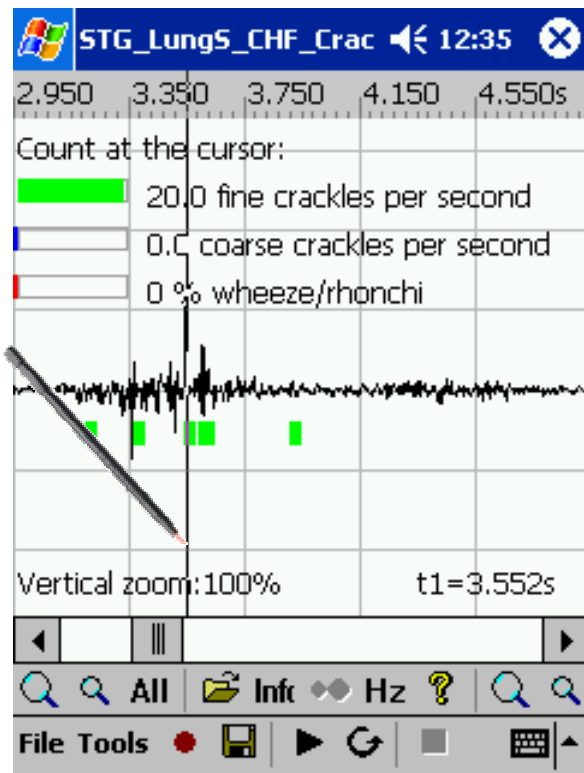


2. Tap **Tools** > **Count Crackles and Wheezes**



3. Crackles and wheezes are counted and identified

Zooming in to crackles

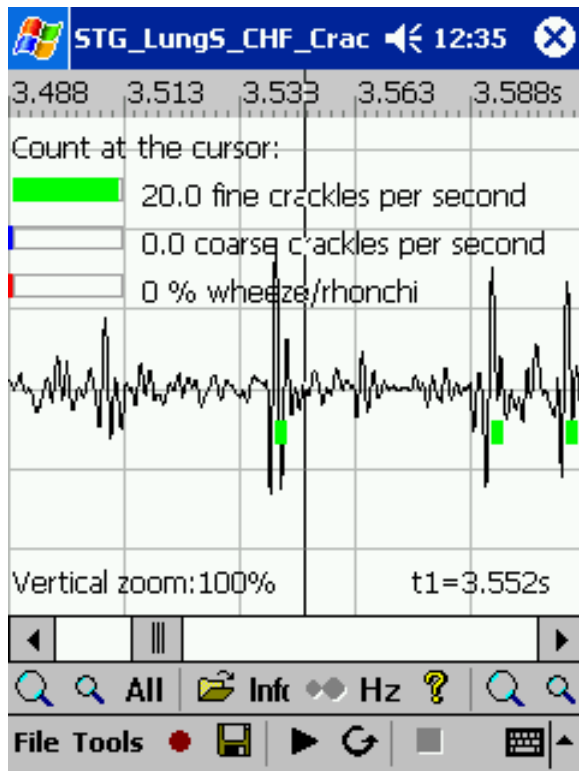


1. Tap on the crackle to position the cursor

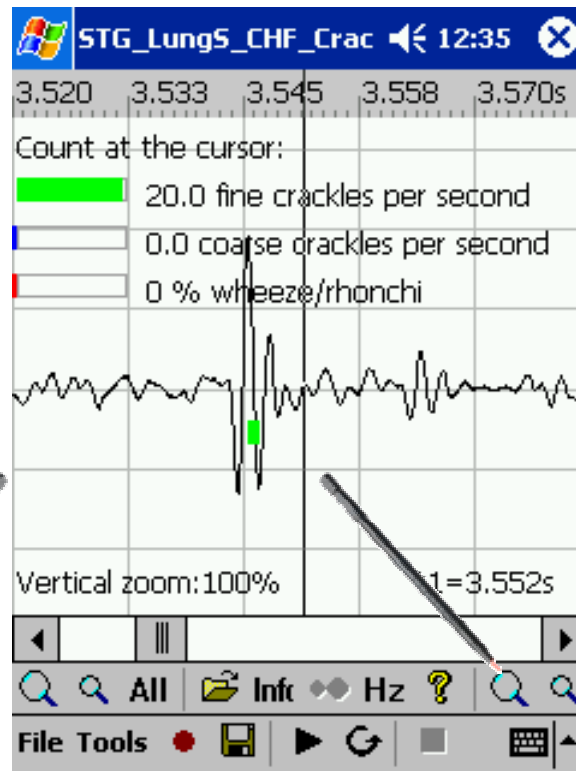
2. Tap on the zoom button to expand the signal horizontally

3. Tap again on the zoom button to further expand the signal

Zooming in to crackles



4. Tap again on the zoom button to further expand the signal

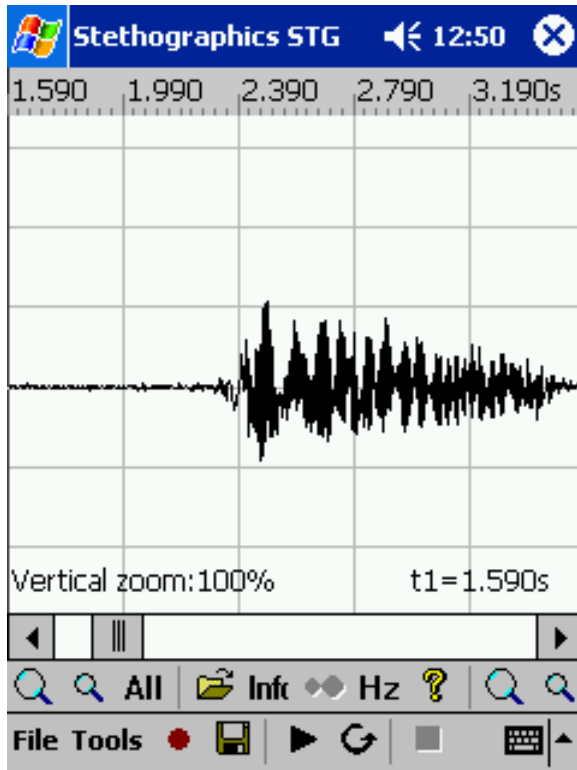


5. Tap again on the zoom button to further expand the signal.

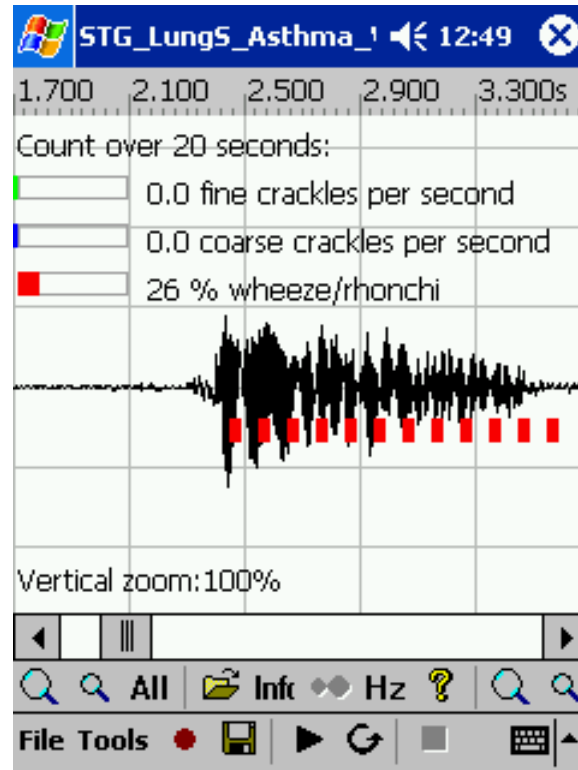


6. Tap again on the zoom button to further expand the signal.

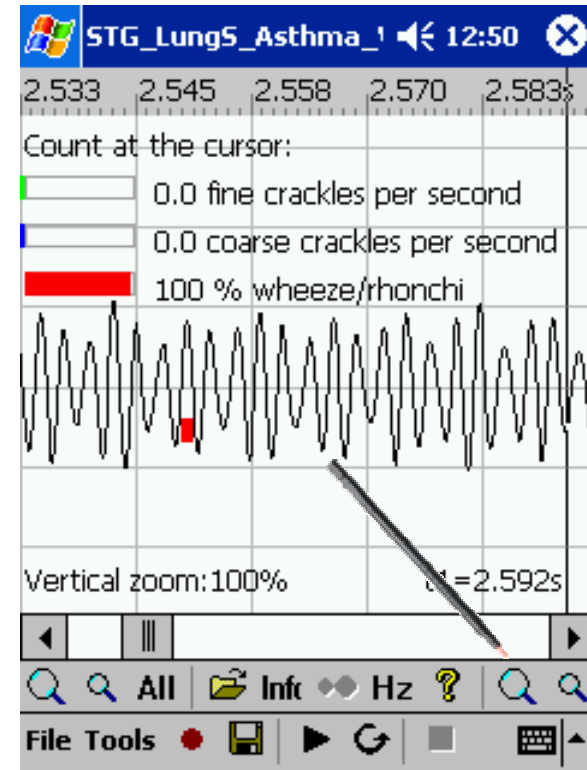
Zooming in to a wheeze



1. Record sound

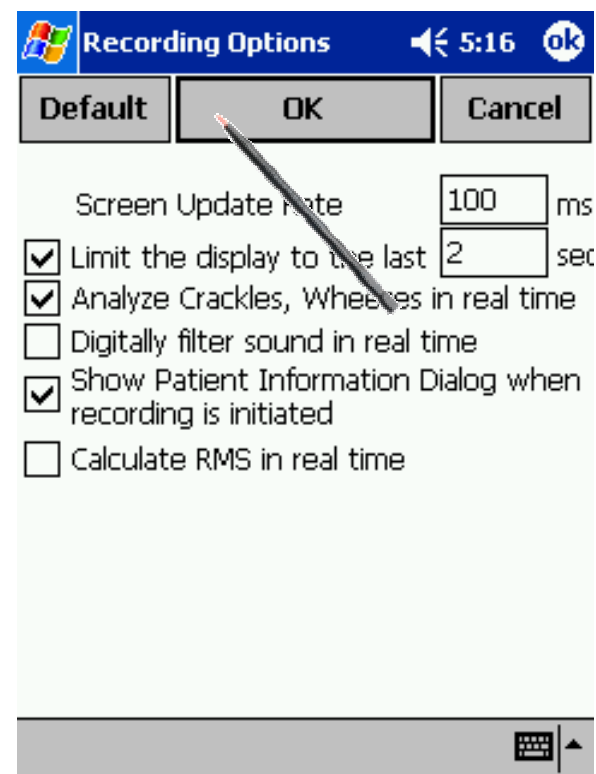
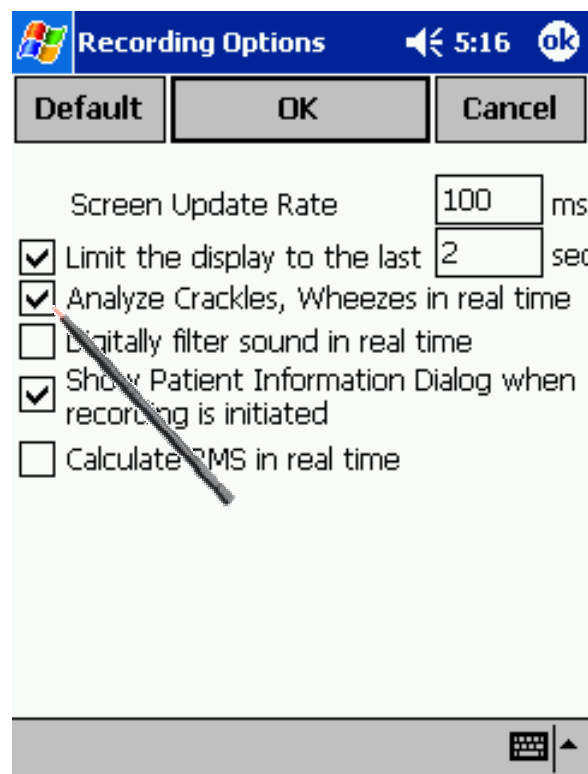
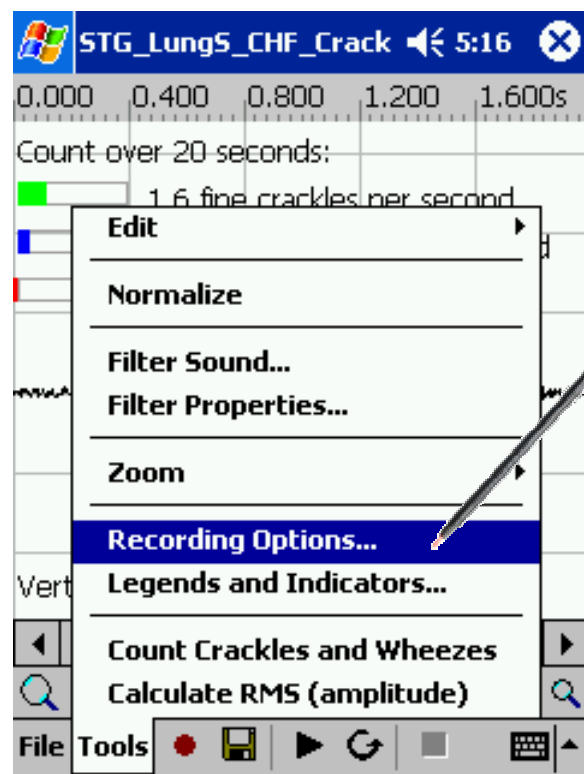


2. Tap **Tools** >
Count Crackles and Wheezes



3. Position the cursor and tap on the zoom button to expand the signal

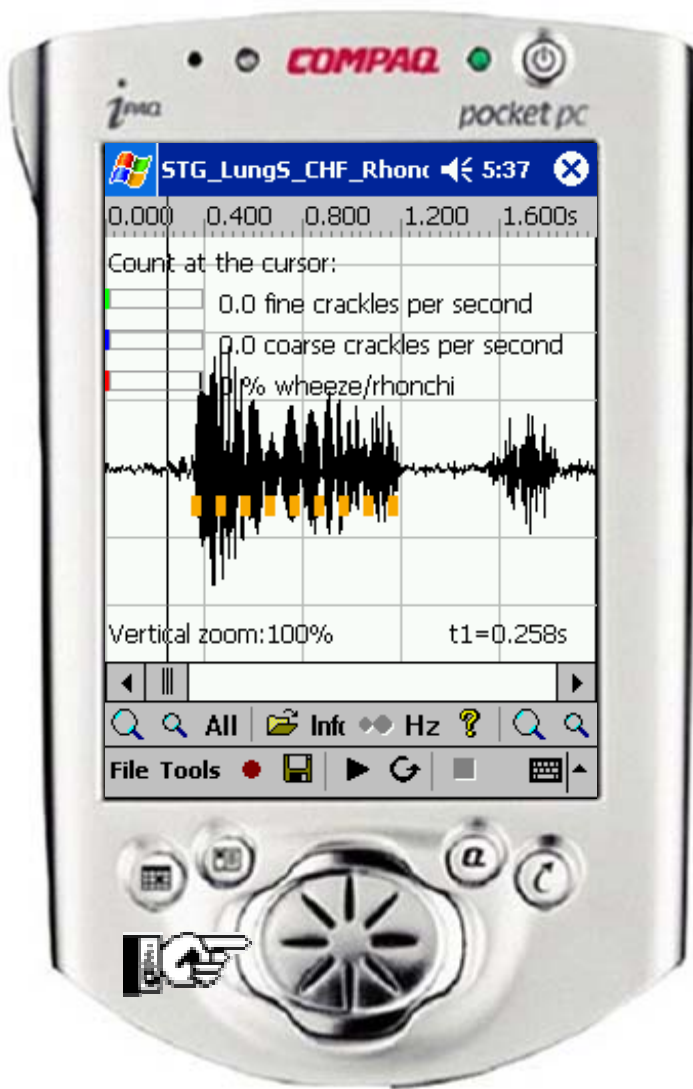
Activate crackles and wheezes count in real-time



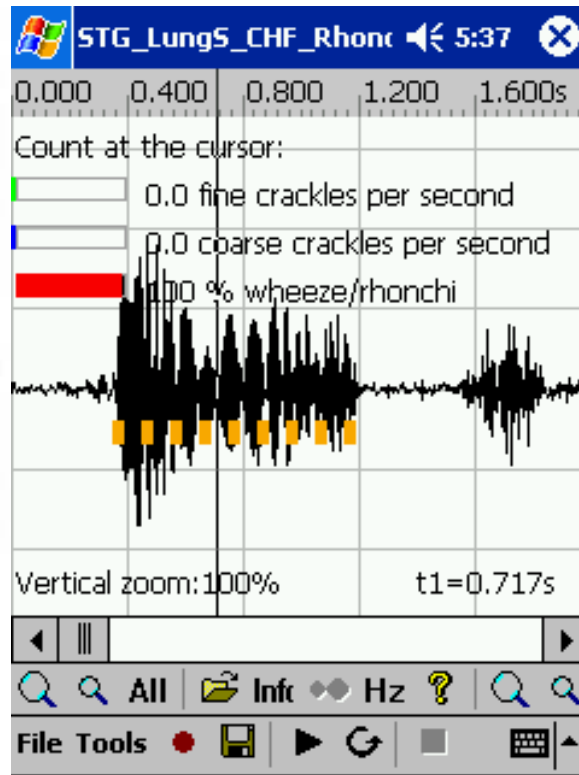
1. Tap **Tools** >
**Recording
Options...**

2. Check the box
**“Analyze Crackles,
Wheezes in real
time”**

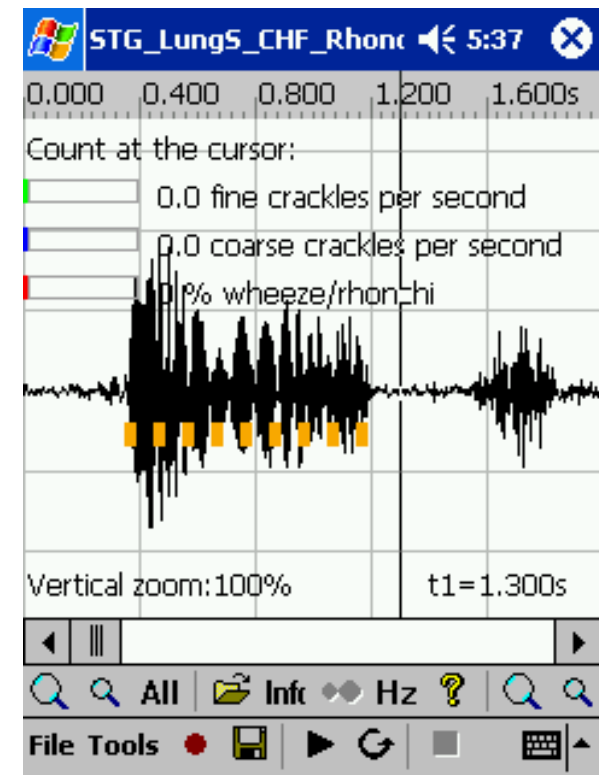
3. Tap **OK**



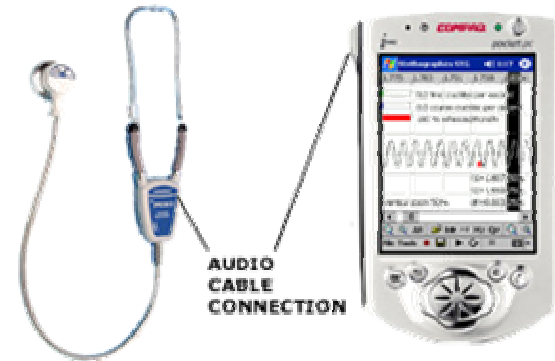
4. Press the left side of the **Navigation Button** to start recording



5. Crackles and wheezes are identified automatically in real-time



Handheld STG



- Lightweight, mobile device
- Objective evidence as a complement to the subjective information from auscultation; particularly effective in evaluating heart illnesses, pneumonia, asthma and chronic obstructive pulmonary disease.
- Visualize murmurs with phonocardiogram display.
- Automated analysis of significant sound features.
- Waveform and time-expanded waveform displays.
- Longitudinal measurements.
- Email files to colleagues or to archives.