

# Goldie - K9 Breath/Heart Sound Simulator

Factsheet

Item no.: VET4040

DO NOT USE DIAPHRAGM WHICH LIMITS LOW FREQUENCY SOUNDS.

Adjust volume control as desired.

Timing of heart sounds is practical by observing two red top LEDs which light up during SYSTOLE and are off during DIASTOLE.

They light during breath sounds INSPIRATION.

Replace battery if ON-OFF LED does not light.

Made in the USA.

## WARNINGS

- 1) Do not use the BHS Simulator for purposes it was not intended for.
- 2) Do not use in or near water.
- 3) Be careful not to lose any of the parts.
- 4) There is no need to remove the SOUNDERS from the mannikin (if installed). Just unplug the grey line that leads into the TUTOR MS.

## Troubleshooting

Please read instructions located on the unit:

- 1) If your unit fails to operate, check the battery. You may try a couple, in case of a dead battery.
- 2) Make sure the module is installed with list of sounds facing towards you, and that it is pushed all the way in (it will click into place).
- 3) Check the speaker connections, and make sure the volume knob is turned up.

## BREATH SOUNDS MENU

### 1 TRACHEAL

Expiration sounds are louder, have a higher pitch and are of longer duration than the sounds during inspiration. The silent period of pause following expiration is considerably longer than the brief silent period separating inspiration from expiration.

### 2 VESICULAR

These are sounds present in healthy subjects though it may require exaggerated breathing efforts by the subject to hear them. In contrast to tracheal sounds, inspiration sounds are louder, have a higher pitch and last longer than those during expiration. The relative duration of the pauses between phrases is similar to tracheal sounds.

### 3 BRONCHO-VESICULAR

These normal sounds are heard primarily over the central portions of the upper chest, both front and back. They are a combination of tracheal and vesicular sounds with acoustic characteristics intermediate between the two. The stethoscope is on the left side so heart sounds are audible.

### 4 BRONCHIAL

In this patient, breath sounds over a region of pneumonia are similar to tracheal sounds in that the expiratory phase is louder and lasts longer than the inspiratory phase. The major distinguishing characteristic is the high-pitched, harsh quality of the expiratory phase. There is a rapid respiratory rate. Also, heart sounds with occasional heart rhythm irregularity are heard.



## **5 WHEEZES**

These musical wheezing sounds are often heard in asthmatic patients. During inspiration, the wheeze is slightly higher in pitch than during expiration. Wheezing in asthmatics is often present in either one or both phases of respiration.

## **6 MONOPHONIC WHEEZE**

Unlike the multiple wheezing sounds in #5, these wheezing sounds presumably originate from a single site as opposed to multiple sources of complex sounds.

## **7 PLEURAL FRICTION RUB**

This sound probably originates from the friction of inflamed pleural surfaces moving against one another and has been likened to the creaking of a gate or the bending of old leather. The sound is monotonously repetitive as long as the breathing pattern and body position remain constant but they usually change when body position is altered. These are similar to but lower in pitch than crackles originating from the lung.

## **8 STRIDOR**

This patient has marked respiratory distress and a narrow aperture between the vocal chords that produces a high-pitched tone during both inspiration and expiration. Note that during the end of expiration there is an abrupt reduction in the pitch of the expiratory tone.

## **9 CAVERNOUS**

These sounds may be heard over a lung cavity. They are similar to tracheal sounds with a loud exaggerated expiratory phase. Both phases of cavernous breathing have a higher pitch than normal tracheal sounds. Heart sounds are also audible.

## **10 CRACKLES**

These medium to fine crackling noises begin about mid-inspiration and progressively increase in intensity up to the end of expiration. Course crackles are also audible in the early expiratory phase of some of the breaths.

## **11 CRACKLES; RHONCHI**

Course crackles are present during both inspiration and expiration. There are also some very low-pitched repetitive sounds that are rhonchi. High-pitched squeaks are also audible against a background of bronchial breath sounds.

## **12 CRACKLES**

These course crackles begin at the onset of inspiration and diminish in intensity and prevalence toward the end of inspiration. Expiration is not audible.

## **13 PULMONARY EDEMA**

The course and medium crackles appear toward the end of inspiration and continue into expiration. The respiratory rate is quite rapid and the expiratory rate is bronchial in character. All of these acoustic features are consistent with the patient's respiratory distress and pulmonary congestion.

## **14 PUPPY**

There is a rapid respiration rate, loud inspiratory phase and irregularity of the breathing pattern in this normal puppy.

Heart sound module includes: Atrial Fib, Mitral Regurgitation, Mitral Valve Click, Normal Heartbeat, PDA, Pulmonic Stenosis, Respiratory Crackles and MR Murmur, SAS, Mitral Regurgitation, VPC, VSD.



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