

# The Frequency of B-Lines and Other Lung Ultrasound Artifacts During VetBLUE in 91 Healthy Puppies and Kittens

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## INTRODUCTION

Lung ultrasound (LUS) is effective in diagnosing common respiratory conditions in people. Established frequency of LUS artifacts in puppies and kittens is unknown and having greater total body water, could be higher and confuse LUS interpretation. Thus, the objective of this study was to determine the expected frequency of LUS artifacts in puppies and kittens.

## METHODS

Vet BLUE lung ultrasound (VB-LUS) was performed on healthy 6–14 week old puppies and kittens. Numbers and locations of B-lines and other LUS signs (shred, tissue, nodule, wedge) were recorded. Data included breed, body condition score (BCS), age, sex, and weight. The number of B-lines per hemithorax, at each VB-LUS view, and other signs were recorded. VB-LUS findings were evaluated relative to BCS weight, sex, left and right hemithoraces, and VB-LUS views.

## RESULTS

Ninety-one animals were enrolled (41 puppies, 50 kittens). Puppies included 2 Chihuahuas, 1 Labrador retriever, and 38 mix breeds; and 20 males and 21 females. Kittens included 43 domestic short-hair and 7 domestic medium-hair; and 27 males and 23 females. The mean (range) BCS (0–9 scale), age (weeks) and weight (kg) of puppies were 3.4 (2–4), 10.1 (6–14), and 4.4 (0.9–8.8), respectively. Total number of B-lines per hemithorax were 1 on the left and right side with positive views being left cranial (n=1) and right cranial lung regions (n=1). The mean (range) BCS, age, and weight of kittens were 3.6 (2–4), 9.3 (7–14), and 1.1 (0.2–2.0), respectively. Total number of B-lines per hemithorax were 2 on the left and 3 on the right side; positive views were left caudodorsal (n=2), right caudodorsal (n=1), perihilar (n=1), and middle lung regions (n=1). All positive views had only a single B-line present. Age, BCS, weight, and sex were not significantly different when compared between puppies or kittens with B-lines versus those without B-lines; however, animals with B-lines were significantly younger ( $p=0.036$ ) when all were combined in a single analysis.

## CONCLUSION

Healthy puppies and kittens ages of 6–14 weeks have similar VB-LUS profiles as adults; however, because animals with B-lines were younger, B-line frequency may be higher in those <6 weeks of age.

## SPEAKER INFORMATION

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