GentleSharp®

A More Humane Blood Sampling System

Allows greater sampling success while minimizing animal distress in pre-clinical studies.

"Very smooth. The 25G needle went in on the first poke, saved time and reduced animal handling compared to the standard needle."

> *David Bienus, BS, MM, LAT*
> *Research Technologist*

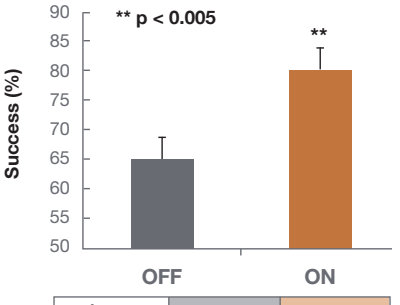
"It was awesome! The vibration helped me get more blood than with a straight stick."

> *Jannetta Smith, RLATG*
> *Research Specialist*
> *Medical University of South Carolina*

"I was extremely pleased with the ease and efficacy of the equipment. We were able to get adequate size samples with an apparent decrease in stress to the animals."

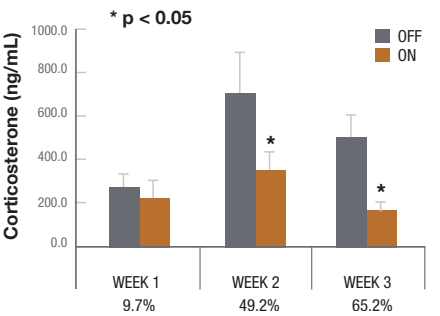
> *Amy Allaire, AS, RLATG, CVT*
> *Lab Animal Technician*

The GentleSharp Device adds directed, low-frequency, oscillatory motion to the needle as it is inserted. The resulting micro-vibrations help the needle glide through the tissue more smoothly with less resistance. Since less force is applied to the tissue during needle puncture, the animal experiences less distress from the blood sampling procedure.



	OFF	ON
Average Success Rate	64.7 ± 3.4%	80.1 ± 3.5%
Proportion with 100% Success	0/23 = 0%	6/24 = 25%

The GentleSharp Device increases the average success rate for serial blood collection from mice tail arteries. With the device ON during needle insertion (orange bar), there was a significantly higher success rate compared to the group punctured with the device OFF (gray bar). Success is defined as obtaining ≥ 0.01g total blood mass (~10 µl blood) per trial; individual success rate based on 9 collection trials per animal (e.g. 9:9 =100%). Student's t-test, statistical significance of mean difference: ** p < 0.005. Error bars = standard error of the mean. ON group: n = 24 mice; OFF group: n = 23 mice.



The GentleSharp Device reduces the average plasma corticosterone concentration obtained from rat tail vein samples during serial blood collections. With the device ON during needle insertion (orange bars), plasma corticosterone concentrations are reduced compared to the device OFF (gray bars). Repeated Measures Analysis of Variance, statistical significance of mean difference. Error bars = standard error of the mean. For weeks 1, 2, and 3 respectively: ON Group: n = 19, 22, 27 with 10 rats; OFF group: n = 21, 15, 22 with 9 rats.

2 out of 3 Rs

> ***Refinement*** *- reduces animal pain and distress during blood sampling.*

> ***Reduction*** *- reduces stress hormone level and variability, reducing the necessary number of animals.*

Key Benefits

> *Greater sampling success*

> *Greater blood volume*

> *Decreased needle insertions*

> *Improved collection success for novice collectors*

> *Lower and less variability of stress hormone level*

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Learn more at GentleSharp.com

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