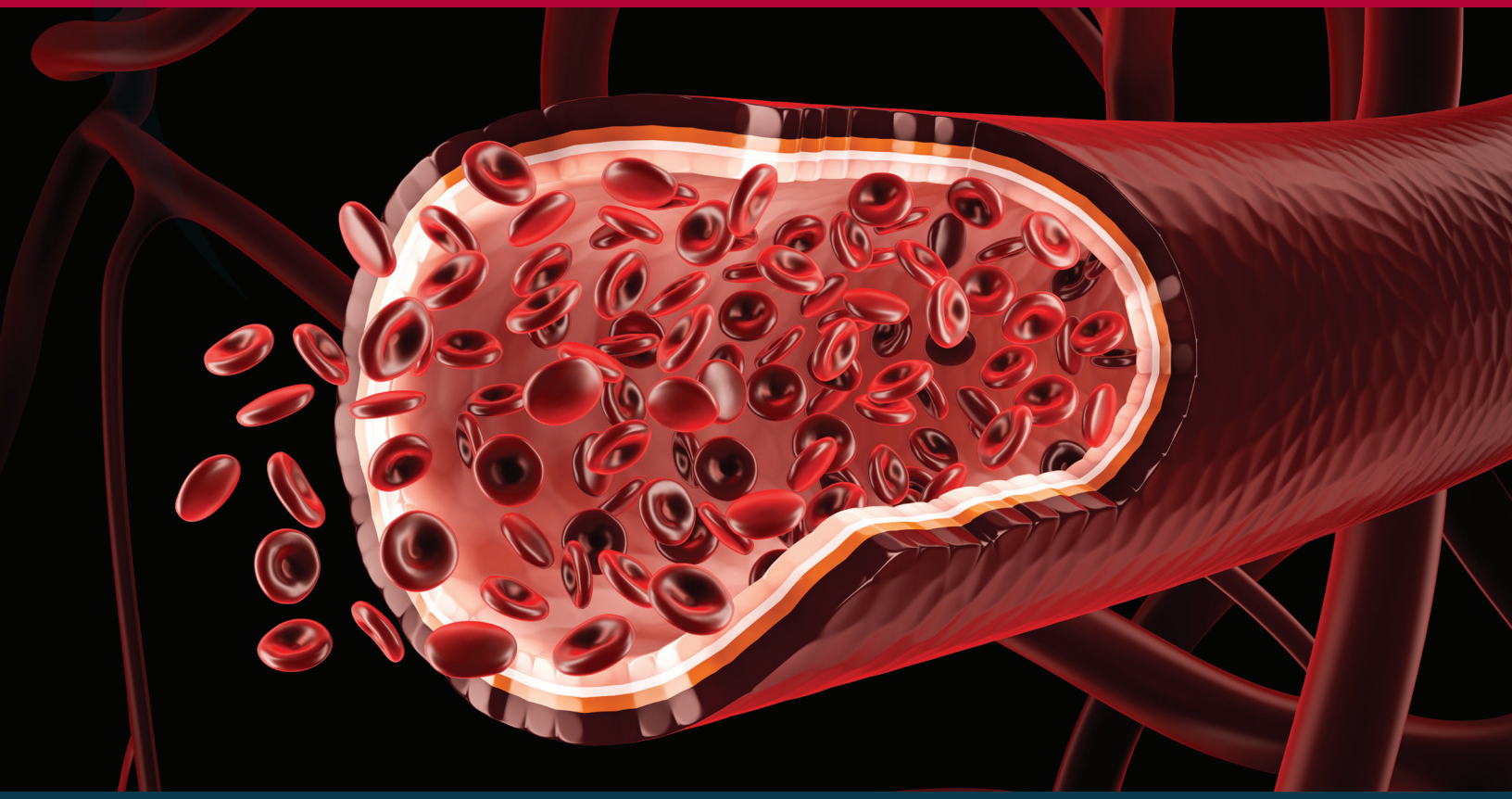
Continuous Glucose Telemetry

The better method for glucose monitoring



DSI™

a division of
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CONTINUOUS GLUCOSE TELEMETRY

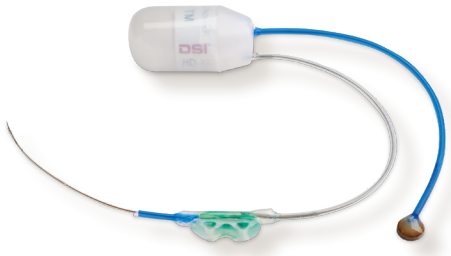
Higher Quality Data

- Measurements from conscious unstressed animals in their normal state
- Artifact from chemical or physical restraint is avoided or minimized
- Variability is reduced due to dramatic increase in sample rate

Advanced Study Designs

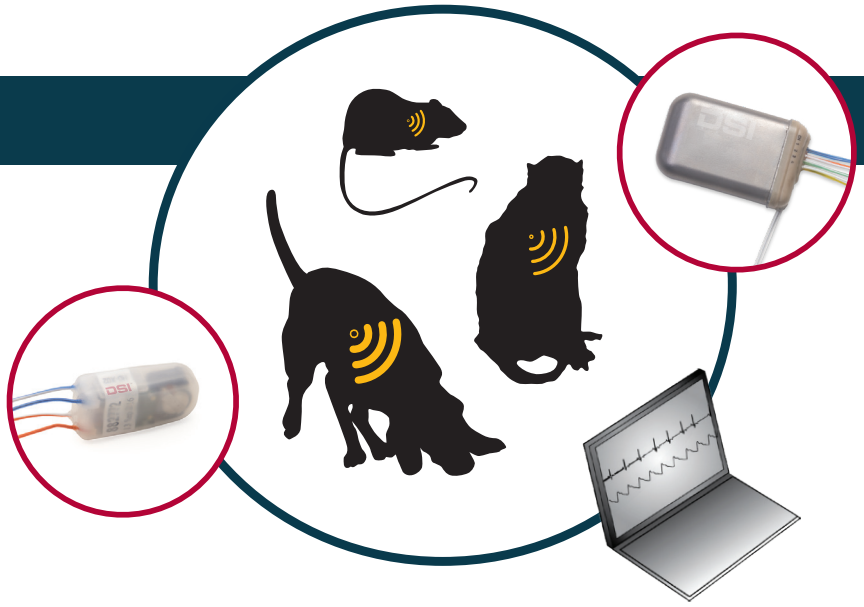
Stress-free, continuous glucose data enables you to perform studies and quantify data in ways not possible or feasible with intermittent sampling.

- Use animals sequentially as their own control
- Detect subtle changes that would otherwise be missed
- Opportunity for quantification of new and improved biomarkers
- Directly quantify glucose homeostasis & glycemic variability



Improved Animal Welfare

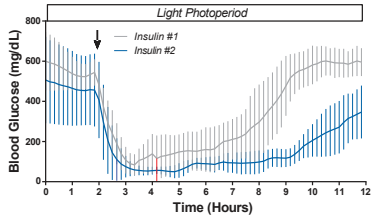
- Fewer blood draws
- Reduced handling
- Minimized human presence
- Animal reduction
  - Same statistical power with lower sample sizes
  - Increased frequency of assays and more efficient use of animals



Implantable Telemetry from DSI

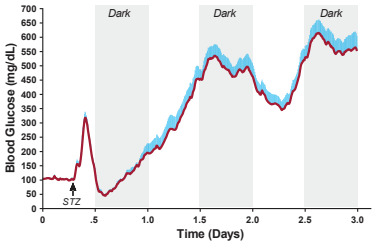
DSI's PhysioTel™ implants are designed for acquiring data from conscious, freely moving laboratory animals —providing stress-free data collection while reducing risk of infection. PhysioTel implants are offered in various sizes to support a range of research models, including mice, rats, dogs and non-human primates (NHP).

RESEARCH APPLICATIONS



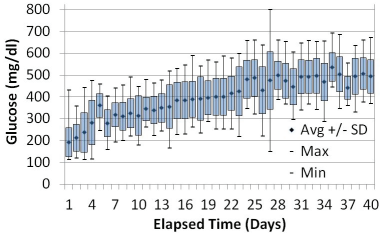
Insulin Dose Response Graph

Data from two groups of six Type 1 Streptozotocin (STZ) rats highlighting the differences in blood glucose levels prior to and following dosing with a long acting insulin. Quantifying the dose response as a function of time enables improved comparisons and the option to further investigate mechanisms.



Streptozotocin (STZ) induction of Type 1 Diabetes Mellitus (T1DM)

Onset of T1DM, and subsequent events, in a group of 11 rats following STZ dosing. This data enables intervention in the hypoglycemic period, if needed, or redosing of animals that do not convert.



Disease Progression in a db/db Mouse

40 days of analyzed data depicting progression of diabetes. Significant maximum and minimum on day 27 are due to fasted glucose tolerance test. The continuous data could also be analyzed for daily light and dark periods throughout or quantification of glucose homeostasis between days 29 and 40.

References

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Robert Brockway, Scott Tiesma, Heather Bogie, Kimberly White, Megan Fine, Libbey O'Farrell, Mervyn Michael, Amy Cox, and Tamer Coskun. J Diabetes Sci Technol. 2015 Jul;9(4):771-81. doi: 10.1177/1932296815586424.

Telemetry for Continuous Glucose Monitoring in Rats
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Continuous Glucose Monitoring for Diabetes, Obesity, and Metabolism Research in Rodents
R. Dechend, C. Schnell. Webinar from http://insidescientific.com/webinars/item/378-continuous-glucose-monitoringdiabetes-obesity-metabolic-research-rodents-data-sciences, November 18, 2015

Specifications	Mice and Rats	Non-human primates, swine, and canines
Parameters measured	Glucose, temperature, activity	Glucose, temperature, activity, blood pressure (in M1G model)
Implant weight	2.2 g	13.7 g
Implant volume	1.4 cc	11 cc
Minimum animal weight	Mouse - 19g SQ, 23g IP Rat - 175g	2.5 kg
Warranted sensor life	Frequently functions 6-8 weeks from implantation. Warranted for 4 weeks	
Glucose sensing range:	50-750mg/dL (2.8-42.0 mmol/l)	
Glucose sample rate:	1 Hz	
Calibration reference	Nova StatStrip® Xpress (or equivalent)	

"Coming from someone who has spent nights sleeping on the floor of the lab to collect blood glucose samples, I can tell you that this [continuous glucose telemetry] is already changing my work/life balance."

—DSI continuous glucose telemetry customer

DSI's Scientific Services

Surgical Services

Free surgical consultation, plus preimplantation services and multiple surgical training options.

Technical Services

Get the most from your DSI products with software training from our experts.

Data Services

Keep your study on time with data experts ready to assist you with collection, analysis or reporting data.

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