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Call for Participation for Improving the "Stroke Model Guidelines"

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Editorial

Highly reproducible stroke models with excellent outcome consistency are instrumental for obtaining useful data from preclinical stroke trials. Many stroke models have been performed suboptimally. The infarct volume variation coefficient ranges from 5% to 200% which was concluded by reviewing articles published on JCBFM, Stroke, and other prestigious journals. Although it is known that factors like anesthetics, temperature, blood pressure are important, there are obviously many issues need to be discussed, or reemphasized, such as how long should the temperature be monitored and maintained after surgery, what should be the strategy for selecting anesthetics when neurotransmitter and neuroplasticity are being studied. There are also many issues that need to be discussed for the commonly used methods for outcome observation. Many factors play a significant role in causing outcome variation; however, they have not yet been defined in the *Stroke Therapy Academic Industry Roundtable* (STAIR) recommendations and the *Good Laboratory Practice* (GLP). The modeling procedure may also be optimized to achieve a dramatically improved success rate and consistency, which are important for a valid study. Without a consistent model, it would be hard to obtain useful data from a study. Similar to the situation with STAIR and GLP, although many research had been aware of these issues and had been practiced as they suggested, yet these points still need to be re-emphasized and updated periodically. With the STAIR guidelines providing an excellent framework for the design of preclinical stroke trials, a detailed guidance for conducting individual experiments using stroke models will further improve the model consistency and inter-lab comparability. The perfection of *Stroke Model Guidelines* needs the active participation from stroke investigators. For this purpose SFES and JESTM welcome every one commenting on the first edition of Stroke Model Guidelines, sharing their insightful thoughts.

Keywords: Acute stroke; animal model; neuroprotection; middle cerebral artery occlusion; guidelines, consistency

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