Quality standards for heparin further strengthened

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To help further secure a safe supply of the widely–used blood thinner heparin, a third round of revisions to quality standards for the drug has been advanced by the U.S. Pharmacopeial Convention (USP). USP's Expert Panel on Unfractionated Heparin ended a two-day meeting on May 16th, 2012, and recommended finalization of the proposed changes. The revisions are scheduled to appear in the November–December 2012 issue of Pharmacopeial Forum—USP's free-access, online publication for posting proposed standards and receiving public comments. The deadline for submitting comments on the revisions will be January 31, 2013. Thereafter, the proposed changes will be considered and finalized by the Expert Panel, followed by further consideration by the Council of Experts Monographs–Biologics and Biotechnology 1 Expert Committee. If acceptable to the Expert Committee, the final standards will appear in USP's compendia, United States Pharmacopoeia (37) and National Formulary (32).

"A secure and safe drug supply is something that the public has come to expect and rightfully so," said Roger L. Williams, M.D., USP's chief executive officer. "Quality standards play a significant role in the overall safety net of regulations and controls that protect medicines in the U.S. Developing and continuously improving standards based on the best science available are paramount."

In the 2007-8 time frame, over-sulfated chondroitin sulfate (OSCS) was associated with adverse effects and deaths among patients. Thereafter, the U.S. Food and Drug Administration (FDA) and USP began working

with manufacturers on a multi-stage process to revise and modernize standards for heparin. OSCS is a less costly substance than heparin and was used for economically motivated adulteration because it can mimic heparin activity when using older, less-sensitive tests.

USP and its partners completed the first round of revisions to the heparin standards in June 2008. Those changes consisted of validating and implementing procedures to detect OSCS. Round two revisions to the standards were completed in October 2009 and included new Identification, Potency Assay, and Impurities (e.g., Absence of OSCS) procedures, with associated reference materials. Stage two also involved the harmonization of USP Heparin Units with International Units established by the World Health Organization.

The third and latest round of revisions to USP's heparin standards will bring even greater sensitivity and precision to the tests and reference materials used to help ensure heparin quality. In response to requests from the FDA, USP has identified and plans to incorporate into the standards new and improved procedures and tighter specifications for detecting and deterring the presence of OSCS as well as improved control for protein and nucleic acid impurities. FDA also requested the addition of a heparin molecular weight determination procedure, which will be included in the proposed revisions along with a related reference material.

Low molecular weight heparins, such as enoxaparin sodium, a newer class of anticoagulant drugs, result from further processing of Heparin Sodium. For this reason, standards for Heparin Sodium also impact those for low molecular weight heparins. USP's activities related to unfractionated heparin will be among the highlights of the Fifth Workshop on the Characterization of Heparin Products taking place on August 14-15, 2012, at USP's headquarters in Rockville, Md. Co-organizers of the event are the National Institute for Biological Standards

and Control, the European Directorate for the Quality of Medicines and Healthcare and USP.

Provided by US Pharmacopeia