Method Validation of the GammaVision® TCC calibration Wizard

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The HPGe Gamma Emitters in Urine (GEU) analytical method partly fulfills a CDC directive for emergency preparedness to respond to a radiological or nuclear incident or emergency. HPGe calibration is a fundamental aspect of the GEU analytical method. We use the (True Coincidence Correction) TCC calibration method built-in to the ORTEC GammaVision® software because it affords us the flexibility to measure many different analytes from a single complete calibration of the detector. The method has significant drawbacks: the built-in calibration is not tunable, HPGe well efficiency suffers severely from coincidence summing, and special attention needs to be made to summing from X-rays. Careful measurement of the accuracy, repeatability, and robustness of the TCC calibration method provides valuable insight into the applicability of the TCC method. We will present results of our analytical method development and our implementation of the TCC in our laboratory program to assess human clinical samples for radioactive material. These assessments provide critical data used to determine the health risk to the individual and to guide medical management decisions in the aftermath of a radiological or nuclear incident.

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