

Purpose: Volumetric dose verification using an EPID (Electronic Portal Imaging Device) continuous acquisition mode is currently being clinically used for IMAT (Intensity Modulated Arc Therapy) QA. The purpose of this work is to present the results of IMAT patient-specific QA using EPID continuous acquisition mode for various treatment types. **Method and Materials:** 34 IMAT cases with various treatment sites (Head and neck, brain, Spine, prostate, Pelvis) and various treatment techniques (conventional fractionated, single fractionated) are investigated using Dosimetry Check (Math Resolutions, LLC), which uses the EPID continuous acquisition technique. Treatment plans were copied as a QA plan using Eclipse TPS (Varian Medical Systems, Inc) and portal image with continuous acquisition mode are acquired at 105 cm EPID distance. A 10x10 reference images is also acquired in integrate mode for calibration. The patient's 3D CT images with the structure set, plan and dose are transferred to the Dosimetry Check program to compare to reconstructed volumetric dose from EPID images. The Dosimetry Check system was compared to conventional ionization chamber and EBT2 film approach for 18 cases. EBT2 film is evaluated in terms of absolute dose using the RIT (Radiological Imaging Technology, Inc) program. **Results:** The Dosimetry Check program average gamma passing rate was 97% for the 3D volume with 3% dose difference and 3 mm DTA criteria and difference of absolute point dose was 1.08%. Most of gamma failures were at the skin surface and interface of different density tissue (air way, lung etc.). Ionization chamber measurements showed an average 1.58% difference from plan point dose and EBT2 film showed an average 1.01% point dose difference and 96.9% gamma passing rate. **Conclusions:** Volumetric portal dosimetry for highly modulated IMAT patient-specific QA compares well to ionization chamber and EBT2 film. The Dosimetry Check is useful for IMAT patient-specific QA.