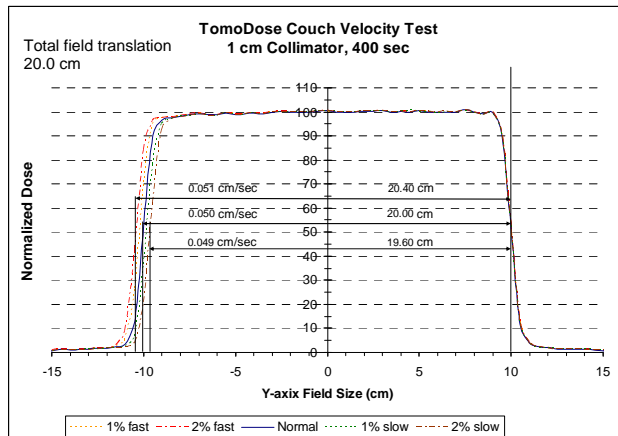


**TomoTherapy Treatment Couch Velocity Verification Using TomoDose**  
**Tewfik J. Bichay and Chen Chen**

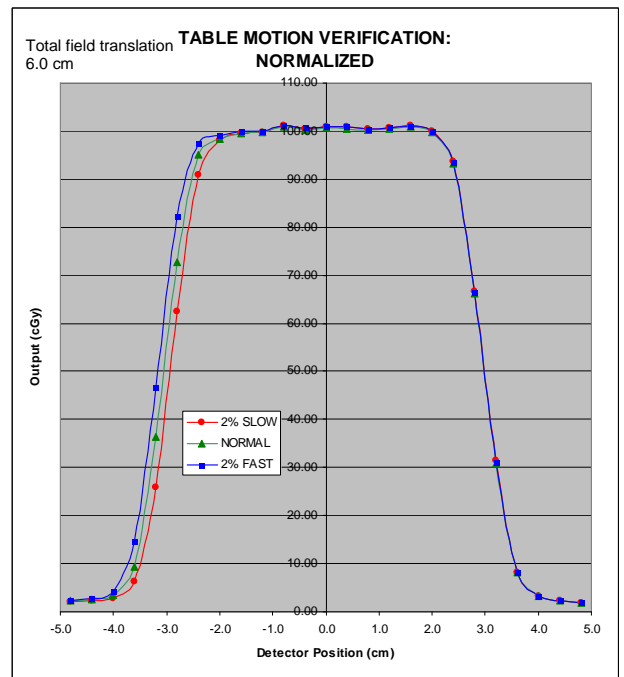
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**Intent:** The recent TG-148 report addresses quality assurance issues for TomoTherapy. These tests include a verification of constancy in couch velocity “V.B.3.b. Couch speed uniformity”. The recommended test involves the use of film with the collimator set to 1 cm mode. We investigated whether TomoDose, a solid state detector, could accomplish this test.

**Results:** TomoDose can be used to detect TomoTherapy treatment couch velocity variations as low as 1%.



**Figure 1.** Conditions: collimator set to 1 cm, couch velocity varied from 0.0495 to 0.051 cm/sec, total translation time is 400 seconds. This represents an increase or decrease of 1% or 2%. The field size change is proportional to the velocity



**Figure 2.** Conditions: collimator set to 1 cm, couch velocity varied from 0.0495 to 0.051 cm/sec, total translation time is 120 seconds. This represents an increase or decrease or 1% or 2%. The field size change is proportional to the velocity