

AbstractID: 2587 Title: New Applications and Continuing Challenges in Image-guided Therapy

Image guided therapy is based on the concept that knowledge of the location and orientation of a therapeutic process will allow for more specific therapy. That is, more of the therapeutic process can be applied directly to the volume of interest with reduced exposure of normal tissue to that process. This is true whether one considers surgery, ablation, radiation, gene therapy, chemo- therapy or implantation as you therapeutic process. Each application requires a multi-dimensional assessment of location, orientation, temporal and functional constraints so that the proper techniques can be developed, tested and validated. It is the latter that represents the greatest ongoing challenge.