This research examines the topic of 3D vision, specifically medical 3D imaging for the autostereoscopic display (without the need for 3D glasses). The hypothesis of our overall research is that we can improve task performance or computer aided diagnosis with the added dimension. In order to perform this research, the tools must be in place to adapt to the clinical environment. Clinical 3D visualization can come from various sources. The first example, used by Informatics, originates with computer graphics programs such as MAYA for generation of training videos for medical purposes. The second source is medical imaging tools made for visualization of CT or MR data in three dimensions. The Kitware VTK software is the most common open source tool upon which many medical imaging tools are based. The third visualization technique is the autostereo display device manufacturer's 3D tools. Our research goal benchmarks the algorithms from these three sources and develops a software interface to the ECE 3D autostereoscopic display. Our research output is a movie of example source material and a benchmark of 3D algorithm performance. This movie is available to view on the 3D autostereo display in the poster session. With this groundwork we are able to target improved algorithms for 3D and will facilitate the next steps of researching clinical task improvement or diagnosis applicability.

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