

mTBI Imaging Tests and Daubert/Frye

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DOES DTI SURVIVE DAUBERT'S TEST?

BRAIN PET?

BRAIN VOLUMETRICS?

MEG?

SPECT?

Daubert's 4-prong test

1. Whether the conclusion or methodology proffered can be or has been **tested** (that is, whether the expert's theory can be challenged in some objective sense, or whether it is instead simply a subjective, conclusory approach that cannot reasonably be assessed for reliability);
2. Whether the conclusion or methodology has been subjected to **peer review and publication**;
3. Whether **standards** exist that control the methodology's operation, and if so, the known or **potential rate of error**; and
4. Whether the conclusion or methodology is **generally accepted**.

Daubert answers for DTI

1. **Tested, objective, not subjective?** Yes. Data can be independently reviewed.
2. **Subjected to peer review and publication?** Yes, thousands of articles on this subject have been published in peer-reviewed journals.
3. **Standards available and error rate known?** Yes, normal values are published, and false negatives have been reported. No data on false positives available.
4. **Generally accepted?** Yes. More centers in Florida and elsewhere are doing these studies all the time.

Daubert answers for brain PET

1. **Tested, objective, not subjective?** Yes. Data can be independently reviewed.
2. **Subjected to peer review and publication?** Yes, many publications in peer-reviewed journals.
3. **Standards available and error rate known?** Yes, normal values are published, and patient data can be compared to a database of normal individuals. Error rate not yet published.
4. **Generally accepted?** Yes. More centers in Florida are doing these studies all the time.

Daubert answers for Brain Volumetrics

1. **Tested, objective, not subjective?** Yes. Data can be independently reviewed.
2. **Subjected to peer review and publication?** Yes, many publications in peer-reviewed journals.
3. **Standards available and error rate known?** Yes, normal values are published. Error rates not yet published.
4. **Generally accepted?** Yes. More centers in the US are doing these studies all the time.

Daubert answers for MEG

1. **Tested, objective, not subjective?** Yes. Data can be independently reviewed, but experts are rare.
2. **Subjected to peer review and publication?** Yes, publications in peer-reviewed journals.
3. **Standards available and error rate known?** Not yet.
4. **Generally accepted?** Not yet.

Daubert Summary for mTBI imaging

	CT	MR	PET	SPECT	DTI	MEG
Objective	Y	Y	Y	Y	Y	Y
Published	Y	Y	Y	Y	Y	Y
Standards	Y	Y	Y	Y/N	Y/N	N
Accepted	Y	Y	Y	Y	Y/N	N

Frye Criterion

1. Frye is just #4 of Daubert—general acceptance. Not defined in the law.
2. A Frye challenge was raised against Dr. Herbst's tractography for mTBI testimony, but was withdrawn after his deposition.
3. Another Frye hearing was requested and denied by a judge in Ft. Lauderdale.