THE REPRODUCIBILITY OF CARDIAC T2* MEASUREMENT IN THALASSEMIA MINOR USING TWO DIFFERENT SOFTWARE PACKAGES

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PURPOSE

- T2* Magnetic Resonance Imaging (MRI) is valuable for non-invasive iron quantification
  - Avoids costly biopsy
  - Available from multiple PACS: GE ReportCard, Circle CVI
- Algorithm to determine iron overload is identical between software programs.
- However, there are slight differences in the measuring and tracing tools between programs
- Are the results between different programs comparable and **interchangeable**?

MATERIALS/METHODS

- Retrospective chart review: N=105
- Inclusion: ALL iron quantification studies from 2011-2018 at UPMC Children's Hospital
- Exclusion:
  - 4 due to excessive motion
  - 1 due to
- Software programs:
  - GE ReportCard (version 4.4.4_FW4510)
  - Circle CVI42 (version 5.9.3
- Statistics (SPSS v. 25):
  - Cronbach's Alpha

RESULTS

- Demographics: Age: 14.97±7.3, 72% Female
- Average T2*
  - GE Report Card: 35.94±11.66
  - Circle CVI42: 36.95±11.68 ms
  - Difference: 3.29±2.49 m
- Reliability:
  - 0.971 ($p<0.001$)

CONCLUSION

- This study found that T2* measurements using GE ReportCard and Circle CVI42 were consistent across the two packages in quantifying iron deposition in the heart.
- Measurements done on either software package can be reliably used to compare iron deposition over time, even if prior measurements were done using the other tool.