

# 3D Photogrammetry to Quantify the Severity of Metopic Craniosynostosis

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## Objective

Determine the utility of 3D photogrammetry for evaluating the severity of metopic craniosynostosis (MCS) using a validated advanced machine learning algorithm



## Methods

Retrospective review of patients with MCS evaluated between 2016 and 2020 and underwent both head CT and 3D photogrammetry within a 2-month period

14 patients, 64.3% male.  
10 of the patients' images were obtained preoperatively and 4 patients had either metopic ridge or mild MCS and did not require surgery



## Results

There was a strong correlation between severity scores of the 3D photogrammetry and CT bone window images, Pearson's Correlation Coefficient,  $r=0.87$ ,  $p<0.0001$



3D photogrammetry is a valid alternative to CT for evaluation of head shape in MCS. Its use will provide an objective, quantifiable means of assessment while decreasing radiation exposure in this patient population.

