The Quantitative Analysis Of Coronal Suture Separation Due To Cranial Trauma

This study tests for asymmetrical separation in the coronal sutures of crania with ballistic and blunt force trauma to determine if significant differences can be detected between the sides that received traumatic forces versus the contralateral regions. Due to the tortuous nature of the coronal sutures, a novel mCT comb-based approach was used to standardize sampling sites. Avizo imaging software was used to define and measure the chord length between sphenion and bregma, which allowed for the placement of twenty equidistant sampling sites along the coronal sutures at orthogonal angles from the cord line. From these defined sampling sites, a CT slice plane was used to measure the maximum sutural width as the largest sutural distance observed and calculate the total open sutural area per slice. Ultimately, these data could provide forensic scientists another method to assess injury and may lead to a more thorough understanding of sutural diastasis in adult human skulls.

Committee Members

Dr. Patrick Lewis
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Event Information
March 22nd
10:00 am
Life Sciences Building
Room 400M