

Jonas Mellgren, MD

Clinical and Experimental Studies on Unicoronal Synostosis

Duration	April – July 2023
Short Bio	I am a medical doctor from Sweden conducting research regarding the rare craniofacial deformity unicoronal synostosis.
Home Institution	Sahlgrenska Univ. Hospital, Dpt. Plastic Surgery, Craniofacial Unit
Host Institution	University College London, Dpt. Mechanical Engineering
Project Description	Traditionally, unicoronal synostosis is treated with extensive surgical corrections but a more modern and less invasive treatment has been introduced. In short, the prematurely closed skull suture is separated, and a small distractor device is placed to mimic normal growth. Initial evaluation shows great results in facial symmetry, but a more comprehensive evaluation is needed. Detailed geometrical morphometrical analyses is a new way of assessing skull morphology and these methods have been extensively used at University College London who agreed on tutor me.
Personal Statement	As for all research, funding is one of the fundamentals. Since this deformity is a rare kind of disease, funding is even harder to obtain. We believe this new surgical method may be a paradigm shift in the treatment of unicoronal synostosis, but this requires unbiased and objective confirmation. These novel computational methods of evaluating asymmetry that London are experts in, provides this and ERN made it possible to actualize this.