



Second to Fourth Digit Ratios in Plastic Surgery

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INTRODUCTION

The second to fourth digit ratio (2D:4D) is the ratio of the length of the index finger (2D) to the length of the ring finger (4D), and it is the most powerful human dimorphic digital ratio combination.¹ The 2D:4D is a well-recognized physical marker of intrauterine androgenic steroid exposure with the index finger length being a measure of the amount of intrauterine estrogen exposure and the ring finger length acting as a measure of intrauterine androgen exposure. Low digit ratios have been shown to be associated with increased assertiveness and risk taking,² aggression, sporting prowess,³ and improved visuospatial ability. Good visuospatial awareness has been explicitly linked to surgical performance, and it is now utilized as an essential criterion in the selection process for surgical training.

MATERIALS AND METHODS

Digit ratios were measured on 70 plastic surgeons and 78 general surgeons at 2 large national surgical conferences (British Association of Plastic Reconstructive and Aesthetic Surgeons, Winter meeting, Dublin, 2013 and the Freyer Surgical Meeting, Galway, 2013). An age- and sex-matched control group of patients was used for comparison.

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RESULTS

Male surgeons had the lowest 2D:4D ratio (0.933 ± 0.01), and this was extremely significant compared with all other groups ($P < 0.001$). No significant difference was identified between plastic surgeons and general surgeons. There was no difference between female surgeons and the control group.

CONCLUSIONS

We have demonstrated that male plastic surgeons have a significantly lower 2D:4D ratio compared with an age- and sex-matched control, and this would be in keeping with published reports that low ratios are associated with improved visuospatial ability. Surgical practice depends critically on several factors including visuospatial performance, and we have revealed an interesting link between male surgeons and low 2D:4D ratios such that increased prenatal testosterone may, in part, predetermine which males are more likely to pursue a career in surgery.

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