Appendix A Nomenclature

This Appendix proposes a set of terms and definitions for use in analyses of 1D biomechanical continua (Table A.1) and relates these terms to analogous, established terms from the neuroimaging literature (Table A.2). Note that the neuroimaging terminology cannot easily be used for 1D applications because the meaning of 'volume' is unclear for 1D data.

Table A.1: Proposed nomenclature for statistical parametric mapping (SPM) analyses of 1D continua.

Category	Term	Abbreviation	Description
Geometry	Point of interest	POI	A single position in a 1D continuum. (e.g. time = 10%)
	Region of interest	ROI	A continuous portion of a 1D continuum. (e.g. time = 20–50%).
Statistical inference	0D inference		*Inference procedures applied to 0D univariate or multivariate data which do not account for correlation amongst adjacent continuum points.
	1D inference		Inference procedures applied to univariate or multivariate 1D data which use multiple comparisons corrections to account for correlation amongst adjacent continuum points. RFT procedures are assumed unless otherwise stated.
	Random Field Theory	RFT	Provides analytical parametric solutions for probabilities associated with smooth 1D Gaussian continua, and in particular the probability that small samples of 1D Gaussian continua will produce test statistic continua that reach certain heights in particular experiments. Reference: Adler and Taylor (2007)
	Small region correction	SRC	A multiple comparisons correction across within-ROI values using (parametric) RFT or a nonparametric alternative. RFT is assumed unless otherwise stated.

General Methodology	0D analysis		Analysis of univariate or multivariate 0D data using 0D inference procedures.
	1D analysis		Analysis of univariate or multivariate 1D data using 1D inference procedures
	0D method		A method which conducts 0D analysis of 0D data.
	1D method		A method which conducts 1D analysis of 1D data.
	Statistical Parametric Mapping	SPM	A methodology for analyzing nD continua, often using classical hypothesis testing. SPM's classical hypothesis testing involves: (i) test statistic continuum computation from a set of registered nD continua, (ii) continuum smoothness estimation based on the nD gradient of the model residuals, (iii) critical threshold computation using RFT and the estimated smoothness, and (iv) probability value computation using RFT and the estimated smoothness for threshold-surviving clusters. Reference: Friston et al. (2007)
	Region of interest analysis	ROIA	A set of procedures involving (i) ROI definition and (ii) statistical analyses of ROI data.
Specific Methodology	0D metric-based ROI analysis	ROIA-0D	ROIA which conducts 0D analysis on a 0D summary metric (e.g. mean, median, maximum, etc.) that is meant to summarize or otherwise represent all values in an ROI. ROIA-0D with a local extremum summary metric (minimum or maximum) is common in the Biomechanics literature.
	1D ROI analysis	ROIA-1D	ROIA which conducts 1D analysis of an ROI's data using a small region correction (SRC). This is the focus of the main manuscript. Equivalent to 'SRC-based ROI analysis'.

*Note: Bonferroni and other corrections applied across multiple continuum nodes but which do not consider inter-node correlation are included in '0D inference'.

Table A.2: Relevant nomenclature from the neuroimaging literature. Terms without abbreviations do not explicitly appear in the literature and are instead introduced here to clarify connections to the proposed nomenclature in Table A.1.

Term	Abbreviation	Description
Region of interest	ROI	A continuous portion of an nD continuum. Also called a 'volume of interest' (VOI) in 3D.
Region of interest analysis		*0D analyses conducted on a 0D metric extracted from an ROI. Reference: Brett et al. (2002). Equivalent to 'volume of interest (VOI) analysis'.
Small volume correction	SVC	A multiple comparisons correction across within-ROI values using (parametric) RFT or a nonparametric alternative. RFT is assumed unless otherwise stated. Reference: SPM12 Manual (FIL Methods Group, Wellcome Trust Centre for Neuroimaging, University College London) http://www.fil.ion.ucl.ac.uk/spm/software/spm12/