Motivation & Goals

Development of complex models is becoming ubiquitous

novice and skilled developers highly interdisciplinary

Encapsulation in simulation software causes opaque model development procedures diminished reproducibility

Can we **rely on FEA** based models

for decision making, and in multiscale analysis?

Reporting recommendations may

be used immediately establish transparency be a move towards standards for exchange

Definitions & Scope

Model refers to **computational model**, representation of the biological structure for finite element analysis:

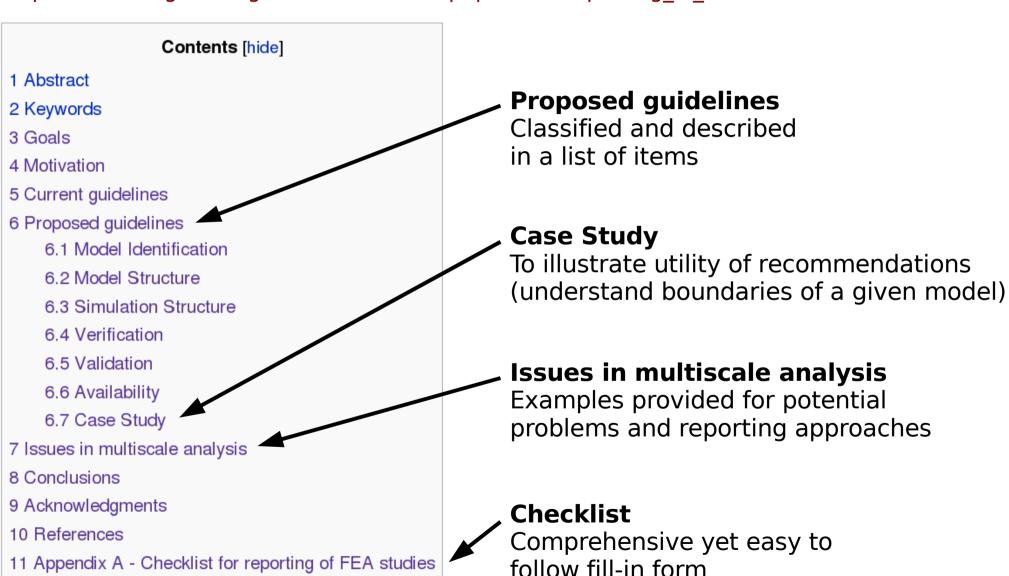
discretized geometric representation constitutive relationships of substructures interactions between substructures loading and boundary conditions

Multiscale refers to interactions between higher spatial scales of the physiome:

joint/organ biomechanics – tissue mechanics tissue mechanics – cell biomechanics

Outline

http://www.imagwiki.org/mediawiki/index.php?title=Reporting_in_FEA



12 Appendix B - Case Study

Discussion Topics

- Scope and applicability (moving from specific to general)
- Decoupling of reporting of the model and that of the simulation platform
- Visibility
 - by publishing
 - by contacting societies, journals, funding agencies
 - for promotion
 - for adoption
- Extension
 - of multiscale issues
 - for other field modeling modalities
 - to other disciplines