IMPLEMENTING CASE BASED LEARNING IN BIOENGINEERING COURSEWORK

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2016 - CURRENT GOALS

Students will develop their understanding of the complex issues surrounding the development of medical devices in three key areas:

BIOLOGY  ENGINEERING  ETHICS

SAMPLE FORMAT - VAGINAL MESH

Assign Stakeholder: Manufacturer R&D
Manufacturer Marketing
Clinicians

Assign Case Study Group: Regulatory

Assign Reading: Urogynecology: Surgical Mesh - Impact on the Safety and Outcomes of Transvaginal Mesh for Pelvic Organ Prolapse

EXPERT SPEAKER

Donna Y. Deng, MD, MS
Director of Female Urology & Neuro-urology, Kaiser Northern California

DIRECTED DISCUSSION & CONCEPT MAPPING

1. Stakeholder Group
2. Case Study Group
3. Whole Class Share-out

FINAL REFLECTION

Instructor Questions & Prompts  Student Written Responses

ASSESSMENT

92\% students had little to no prior knowledge about pelvic prolapse and vaginal mesh prior to the case study.

80\% students said their perspective on vaginal mesh changed or evolved over the course of the case study.

96\% students agreed Dr. Deng’s talk was valuable and useful for their understanding of the case study.

48\% students cited the complexity or tension between stakeholders as contributing to the vaginal mesh ‘mess’.

ONGOING WORK

(1) Assessment and updates to existing case studies as the device landscape evolves.
(2) Development of new case studies.

CASESTUDIESFORSTEM.COM

This (in-progress) website includes resources on
(1) why case based learning is a useful and effective teaching tool
(2) describes how we integrate case studies in the classroom & includes guidelines for creating your own case studies
(3) links to case study databases from various disciplines

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