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# Just-in-Time Teaching (JiTT) applied to Pathology Residency Training

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Nothing To Disclose – The authors of this abstract have indicated that they have no conflicts of interest that relate to the content of this abstract.

## 1. Background

JiTT is an active teaching and learning strategy that combines web-based assignments with classroom learning.

JiTT sessions can be limited to one-hour; each learning activity is an event by itself and it can be used in small groups composed of learners with heterogeneous backgrounds previously exposed to the material.

**Our goal is to demonstrate how JiTT can be applied to Pathology resident teaching.**

## 2. Design

**Who:** Pathology residents and fellows, total 15, from junior to senior

**Why:** Learning sessions as part of residency curriculum

**When:** Breast Pathology lecture series

**Where:** Pathology Conference room with 3 multiheaded microscopes

**What:** Breast Cytopathology

## 3. Pre-session preparation

**5 days before:** 12 digital images of three cases (benign, malignant, papillary lesion) shared with 14 Pathology residents.

**Also shared:** textbook with designated sections for reading, downloadable via the medical library.

**3 days before:** four open-ended questions emailed including what case was most difficult; answers due night before session.

**The night before:** answers reviewed by the Faculty and grouped by category. 15-minute mini-lecture prepared addressing most confusing points.

## 4. 60-minute session timeline

- **5 minutes:** go over answers anonymously
- **15 minutes:** mini-lecture using previously reviewed digital images
- **15 minutes:** class divided in two groups; multiheaded microscope review of corresponding glass slides
- **15 minutes:** Groups present cases and answer online questions.
- **5 minutes:** Closing presentation, most important points.

## 5. Medium-term recall

**Three weeks after class:**

Participating residents interviewed, asked for feedback and suggestions. Asked to recall three most important criteria learned from the activity.

All participants interviewed were able to recall three relevant criteria in the cytological evaluation of Breast FNAs.

## 6. Resident's perspective

**Positive points:**

- Web-based material: flexibility to study
- Study materials: can be kept as reference
- 15-minute lecture: ideal duration
- Repetition of same images (online, lecture and glass slides): helpful for learning
- Groups: provide anonymity

**Negative points:**

- Three days is a short time to answer questions in busy schedule

## 7. Faculty perspective

**Positive points:**

- Student thinking made visible
- Residents better prepared:
- productive discussion
- Main points reinforced
- Pleasurable exchange

**Negative points:**

- Increased preparation time, particularly the night before the session

## 8. Conclusions

The main strengths of JiTT are the ability to make student thinking visible, help develop expert-like thinking processes, improve transfer of knowledge and promote reflective learning. We demonstrate how this learning strategy can be successfully applied to Pathology residency teaching.

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