



# Plastic Surgery Resident Perception of Didactics after Format Restructuring due to COVID-19

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## BACKGROUND

During the start of the COVID-19 pandemic in the spring of 2020, the Department of Plastic Surgery at the Medical College of Wisconsin was required to cease regular, in-person educational conferences. This was a common safety measure across the country and created a need for curriculum re-structuring with the aim to maximize remote learning, increase case-based teaching, optimize faculty participation, and enhance in-service exam preparation.

Prior to quarantine, our departmental curriculum consisted of weekly, in-person grand rounds and surgical indications conference as well as monthly morbidity and mortality (M&M) and after-hours journal club conferences. We transitioned all conferences initially to Cisco WebEx and then Zoom. Based on resident feedback on perceived in-service exam preparation weaknesses, we then began to re-examine each conference to maximize educational value.

Each month was designated a more specific topic as set forth by the American Society of Plastic Surgeons (ASPS) Educational Network. The topic serves as the educational theme for that month's conferences. M&M conference was redesigned for improved reporting and to fit a structured format. Journal club was transitioned to normal conference hours and included focused recent and landmark studies. Indications conference was continued with a more in-depth discussion of interesting cases for the upcoming month. Each month included both faculty and resident-led grand rounds, and we added highly interactive case-based learning conferences.

## METHODS

- Institutional Review Board approval and a Letter of Support from the Graduate Medical Education Dean were obtained.
- Didactic changes were implemented in July 2020.
- A ten-question survey was designed to evaluate resident perception of changes made to each conference, as well as the overall quality of the curriculum. A 5-point Likert scale was used for nine questions with a 1-10 numeric rating scale for the final. Questions were reviewed by independent educators to eliminate leading, poorly worded, or double-barreled questions.
- The survey was anonymously distributed online to all 12 plastic surgery residents at the time of changes to get a baseline assessment and then subsequent quarterly assessment.
- Three quarterly surveys have been collected to date.
- Data was analyzed via descriptive statistics and unpaired t-test.

## RESULTS

- Response rates: 83% for baseline, 92% for first follow-up, 67% for second follow-up.
- Resident perception of the curriculum showed an improved trend for all survey questions, with faculty engagement, case-based learning, and indications conference showing a marked positive effect.
- Question 10 queries quality of overall curriculum before and after changes on a scale of 1-10. There is a significant difference ( $p < 0.05$ ) in the perceived quality of curriculum from baseline (5.7 +/- 1.3) and each subsequent follow up (7.7 +/- 1.1, 8.0 +/- 1.2)

## CONCLUSIONS

- Early data shows improvement in the resident-reported quality of the curriculum, and we are hopeful this trend will continue over the course of data collection (eight quarters). We will also assess in-service scores, as an objective measure, over this time as well.
- We plan to maintain the current topic-based curriculum/conference structure with increased interactive content with a focus on patient evaluation and case-based application after transition to in-person format. We also hope to continue to effectively utilize remote learning, especially in the realm of invited expert conferences.
- Feedback via a resident academic liaison, regular resident input during Program Evaluation Committee meetings, and use of an anonymous feedback/comments section of the survey has led to a more fluid curriculum. Fluidity in the academic process is paramount to success.

## DISCUSSION

This work is important as all academic institutions have had to re-invent their curriculum and delivery (with varying levels of success) in the past year. This year has served as a disruption to the "norm" and allowed us to involve learners in their own growth. Although we eagerly look forward to gathering as a department once it is safe to do so, the past year has undoubtedly afforded us an opportunity for close reflection and improvement of our educational mission.

## ACKNOWLEDGMENTS

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## WORKS CITED

1. Harpe, S. E. (2015). How to analyze Likert and other rating scale data. *Currents in pharmacy teaching and learning*, 7(6), 836-850.
2. Heiberger, R. M., & Robbins, N. B. (2014). Design of diverging stacked bar charts for Likert scales and other applications. *Journal of Statistical Software*, 57(5), 1-32.
3. McLean, S. F. (2016). Case-based learning and its application in medical and health-care fields: a review of worldwide literature. *Journal of Medical Education and Curricular Development*, 3, JMECD-S20377.
4. Thistlethwaite, J. E., Davies, D., Ekeocha, S., Kidd, J. M., MacDougall, C., Matthews, P., ... & Clay, D. (2012). The effectiveness of case-based learning in health professional education. A BEME systematic review: BEME Guide No. 23. *Medical teacher*, 34(6), e421-e444.

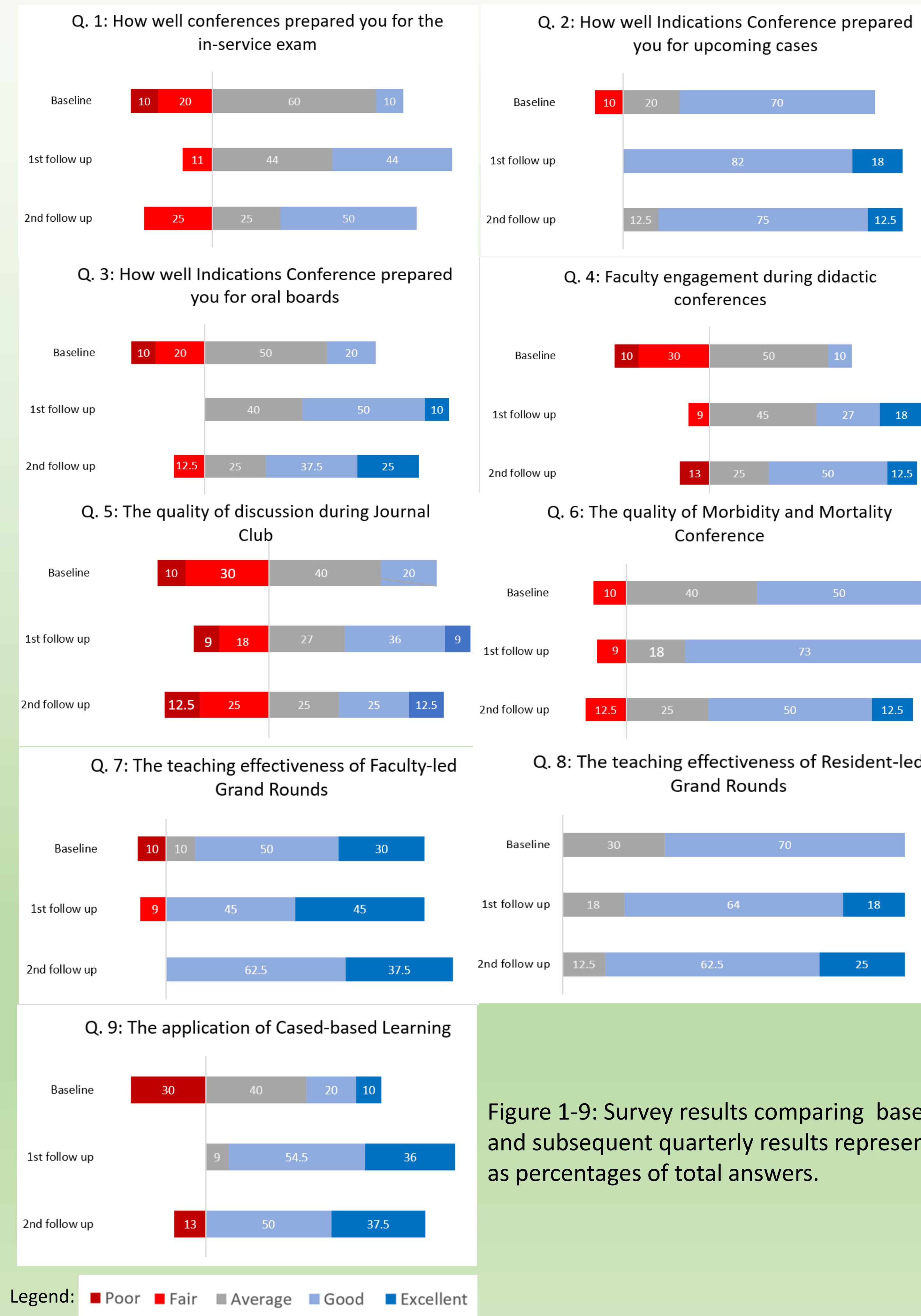


Figure 1-9: Survey results comparing baseline and subsequent quarterly results represented as percentages of total answers.