

Effects of a Standardized Officewide Protocol for an Approach to Acute Lower Back Pain

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Background

- Lower back pain is one of the most costly and common musculoskeletal complaints for a primary care provider to address. It can be very difficult to diagnose and treat as treatment approaches can vary widely and there are a wide range of modalities that may be incorporated to identify the source.
- Both treatment and diagnostic modalities can unnecessarily increase healthcare costs for both the patient and the healthcare system.
- This quality improvement project aims to determine if a lecture series that provides a comprehensive review of the different causes of low back pain and provides a stepwise approach to treating it can reduce the number of unnecessary referrals, imaging, and medications ordered.
- This QI project hypothesizes that after healthcare providers have viewed the instructional lecture, the amount of imaging ordered, referrals generated, and medications prescribed will be more consistent with standards of care, thus increasing the quality and efficiency of care, while reducing unnecessary healthcare costs.

Methods

- Patients seen in the Morristown Medical Center Family Medicine office from Jan 2023 through Sept 2023 for acute lower back pain had charts reviewed.
- Criteria for comparison were broken up into the following categories: Suspected diagnosis (acute low back pain) imaging ordered, referrals generated, medications prescribed
- Exclusion criteria: subacute/chronic back pain (greater than 4 weeks duration and greater than 12 weeks, respectively), and patients solely being seen for Osteopathic Manipulative Treatment
- A videotaped lecture was shown to all the office providers. The lecture focused on lower back pain, causes, appropriate imaging, medications, and referrals in an effort to generate a standardized office wide protocol
- Post interventional video, patients seen for Acute Lower Back Pain from October 2023 through the first week of January 2024 (33 patients after the application of exclusion criteria) had their charts analyzed for the same categories: imaging ordered, referrals generated, medications prescribed
- Additionally, clinic providers were given a pre and post interventional knowledge assessment in order to gauge effectiveness of the instructional video in familiarizing them with the evidence-based approach to acute lower back pain

Acknowledgements and References

IRB exempt as determined by the AHS IRB Committee.
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Figures

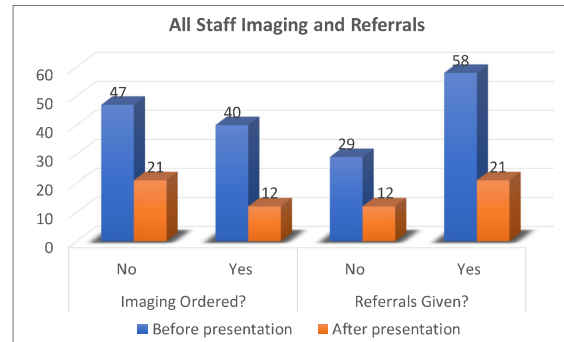


Figure 1: Imaging (p-value 0.41) and referrals (p-value 0.83) ordered by all staff pre and post presentation

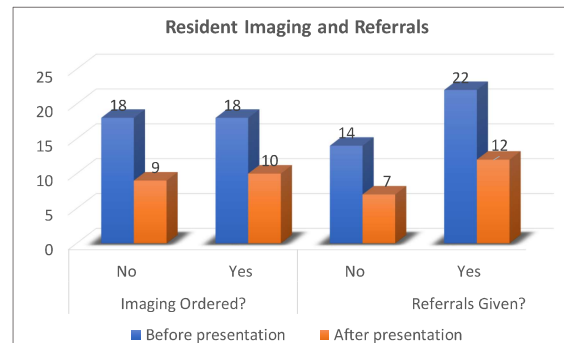


Figure 2: Imaging (p-value >0.99) and referrals (p-value >0.99) ordered by residents pre and post presentation

Results

- Data was broken down into four categories: residents, attendings, mid-levels (NP/PA) and all staff.
- All staff, the pre-presentation group (n=87) and the post-presentation group (n=33) had no significant difference in the imaging (p-value = 0.41) and referral (p-value = 0.83) for all staff pre vs post presentation. Figure 1 shows the breakdown of imaging and referral occurrences.
- Residents pre presentation group (n=36) and post-presentation group (n=19) showed no significant difference in imaging (p-value >0.99) and referral (p-value >0.99) occurrence. Figure 2 shows the breakdown of imaging and referral occurrences.
- Pre-presentation (n=16) and post-presentation (n=13) quiz results were not significant (p-value = 0.33). Pre quiz results 94.8%. Post quiz results 97.4%
- Attending and mid-level charts and data were not displayed due to lack of compliance with viewing the virtual lecture. There is no statistically significant difference between the study periods as it pertains to the proportion of patients to whom imaging and referrals were given by the mid-level staff and attendings.

Conclusion

- In this study there was no significant difference with regards to office providers and imaging ordered vs referrals given pre and post instructional lecture (Chart Series 1-4). Furthermore, there was no significant difference with regards to scores on the pre and post knowledge assessments
- Some limitations existed with regards to this study. Retrospectively, doing the following potentially could have improved outcomes:
 - Instead of giving the lecture virtually with a pre-recorded video, an in person presentation may have led to better attention to the information being presented and a greater impact with post intervention management decisions
 - Starting the project earlier on during residency would have led to more time for post interventional data and a greater sample size
 - Distributing an office-wide algorithm of topics being presented would have led to more adherence to the stepwise approach being presented in the instructional lecture
- As osteopathic practitioners, we undergo extensive musculoskeletal training. Being able to continuously improve our diagnostic skills is a crucial element of our practice. Furthermore, being able to decrease subjecting patients to unnecessary imaging and diagnostic workup will likely reduce distress related to extra appointments, bills, and