

## Utilizing Quick Response (QR) Codes and Uniform Resource Locator (URL) links in Printed Discharge Instructions for Chronic Pain Patients

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**Abstract :** Back and neck pain result in more than 3 million Emergency Department (ED) visits per year. Approximately 10-20% of patients with acute low back pain will continue to have moderate to severe pain after 3 months and 30% will develop chronic functional impairment. Strategies for analgesia for musculoskeletal pain upon ED discharge have been shown to be highly variable and provider dependent. The American College of Physicians, United Kingdom and Danish treatment guidelines all recommend exercise as the first line treatment for low back pain present >12 weeks and as an adjunctive treatment to education and encouraging continued mobility in acute low back pain. URL links and QR codes were embedded in Epic's Electronic Medical Record (EMR) for seamless integration into discharge instructions. To our knowledge, this is the first time QR codes have been embedded and used as an adjunct to computer generated discharge instructions into an EMR nationwide. **Materials and Methods:** Eleven two-minute physical therapy (PT) videos treating a variety of common painful musculoskeletal conditions were prepared in collaboration between the Pain Management and Physical Therapy departments of a large academic center. The videos were hosted and made available on Vimeo for free public access. Dynamic QR codes and URL links were created for each video and integrated into the EPIC Electronic Medical Record discharge instructions. Both data from physician prescribed PT videos and results of public searches are included. As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per IRB policy. **Results/Case Report:** From 2/6/2021 to 5/19/21, the videos were prescribed on Epic a total of 76 times, the dynamic QR codes were scanned a total of 84 times. Low back (n=32) followed by neck (n=8), shoulder (n=7) and radicular low back pain (n=7) were the most common painful complaints prescribed a PT video. The videos were played on Vimeo 790 times with 83% (n=656) being unique views and 17% returning users. Shoulder pain (n=489) followed by neck (n=36) and low back pain (n=37) were the most commonly played videos. **Discussion:** Patients are viewing their physical therapy videos via QR codes provided by their physicians. The large number of public views of the physical therapy videos are either from patients sharing the link/QR code or patients not affiliated with our institution are searching for videos to treat their painful complaints. The data suggests there is a need for reputable home PT videos to treat commonly encountered painful complaints with 17% of viewers returning for repeat view. The shoulder pain video was played significantly more than the others despite not being given to patients more frequently, which raised suspicion it may have received increased traffic via an outside affiliate, website or influencer. When eliminating shoulder pain from the data, individuals watched 67% of the entire video on average, indicating high engagement.

**Keywords :** pain, EMR, emergency medicine, discharge

**Conference Title :** ICPMM 2025 : International Conference on Pain Medicine and Management

**Conference Location :** Dubai, United Arab Emirates

**Conference Dates :** February 10-11, 2025