### Introduction

Narcolepsy is a chronic neurological condition, the classic form of which results from the destruction of hypocretin (Hcrt)/orexin producing cells in the hypothalamus. The loss of Hcrt is thought to lead to the major symptoms seen in patients with narcolepsy (PWN): excessive daytime sleepiness, cataplexy, sleep paralysis, sleep disruption, and hypnogogic hallucinations. With an estimated prevalence of 1 in 2,000 in North America, many physicians may provide care for only a few afflicted patients during their careers. Additionally, some of the medications used to treat PWN, such as sodium oxybate (Xyrem®) and armodafinil (Nuvigil®), are unfamiliar to most physicians, even sleep specialists.

In 2013 Jazz Pharmaceuticals released the findings of their AWAKEN (Awareness and Knowledge of Narcolepsy) survey. The surprising results were that only 24% of primary care physicians and 62% of sleep specialists considered themselves ‘very or extremely knowledgeable’ about the disorder. Only 22% of sleep specialists were able to identify all five symptoms of the disease; the same number reported they were ‘not very or not at all comfortable’ in diagnosing narcolepsy.

The QR (Quick Response) code is a two dimensional barcode first designed in 1994 for use in the automotive industry. Since then, it has found wide-spread use in other areas, especially in consumer advertising. Most smartphones and electronic tablets can be used as QR-code scanners, converting the code into a useful form such as an URL for a website. Scanning a QR-code can allow the user to be quickly logged in to the linked website.

Anecdotal reports of PWN receiving suboptimal medical care in emergency departments, apparently due to a relative lack of awareness of narcolepsy and the medications used for treatment among the medical personnel, led the authors to investigate a more expedient method for providing relevant information to those personnel. As such, we set about to design a QR-coded medical alert wristband for use by PWN.

### Discussion

Narcolepsy is a relatively uncommon chronic medical condition which can present with symptoms mimicking other serious conditions, including psychiatric disorders. This confusion, combined with the oft misunderstood medications prescribed to treat the condition, can potentially lead to medical errors in stressful acute settings, such as emergency departments. The rapid communication of essential medical information is requisite in order to provide optimal medical care.

This study demonstrates that a QR-coded wristband can provide a facile method for reliably transmitting this type of medical information to medical personnel. The method is applicable to all types of medical conditions, is easily produced, and is well received by the target population. We encourage other organizations to utilize similar methods in order to benefit their members/patients.

### References


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