

## Shared Medical Appointments for Patients with Kidney Stones New to Medical Management Decrease Appointment Wait Time and Increase Patient Knowledge

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### Abbreviations and Acronyms

MA = medical assistant  
RD = Registered Dietitian  
SMA = shared medical appointment

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**Editor's Note:** This article is the third of 5 published in this issue for which category 1 CME credits can be earned. Instructions for obtaining credits are given with the questions on pages 1958 and 1959.

**Purpose:** Urolithiasis is associated with pain and other health related quality of life decrements. Lack of access to multidisciplinary care is a barrier to prevention. We developed a shared medical appointment to improve access as well as patient education and exposure to multidisciplinary care.

**Materials and Methods:** A total of 112 patients ( $51 \pm 14$  years, range 19 to 87) were seen in 27 shared medical appointments during 14 months. Patients were seen using existing clinic space, staff and providers. We targeted new patients for the shared medical appointments. We incorporated presentations as well as multidisciplinary rounding in a group setting to provide care for the participants. Patients were surveyed to measure satisfaction as well as knowledge of key prevention concepts.

**Results:** Appointment wait time decreased steadily from  $180 \pm 77$  days before shared medical appointments to  $84 \pm 39$  days. The number of patients seen per month increased by 43%. The number of new clinic patients, which includes those seen in shared medical appointments and in individual appointments, who received nutrition education and intervention increased from approximately 50% before shared medical appointments to nearly 75%. Patients who attended a shared medical appointment overwhelmingly (87%) rated their satisfaction as excellent or very good; 90% of patients said they would recommend this kind of visit to others. Posttests revealed that patients in shared medical appointments had superior knowledge ( $p < 0.02$ ) than controls.

**Conclusions:** Shared medical appointments can be an efficient way to evaluate and manage new patients for urolithiasis prevention. Patient satisfaction was high and knowledge about prevention was higher than that of patients seen in individual appointments.

**Key Words:** appointments and schedules, kidney calculi, urolithiasis, drug therapy

WITH the prevalence of urolithiasis approaching 15% and increasing in the United States,<sup>1-3</sup> demand for prevention has risen. Urolithiasis is typically sporadically symptomatic, often with periods of quiescence of variable length. As such, it seems

prudent to initiate prevention soon after a symptomatic episode when the experience is fresh.<sup>4</sup> Multidisciplinary approaches may be effective, partially due to an observed phenomenon called the stone clinic effect.<sup>4,5</sup> Early intervention is effective

in preventing recurrence,<sup>5</sup> although access to kidney stone prevention clinics, as with other specialty clinics, may be limited, resulting in delays and deterrents to care.

Shared medical appointments have been used for at least 15 years in the United States.<sup>6</sup> In SMAs, multiple patients are seen by a provider simultaneously. While a common clinical indication for SMAs is diabetes, they have been implemented in other diseases.<sup>7</sup> With increased emphasis on patient centered outcomes, such as satisfaction, acceptance of SMAs is important. Data show that patient satisfaction for SMAs can be equal to individual appointments.<sup>8</sup> Superior outcomes, such as reduced hospitalization rates of patients with asthma and diabetes, are reported.<sup>9,10</sup> While results are promising, SMAs may not be suitable for all specialties.<sup>11,12</sup>

Medical management for urolithiasis is multifactorial and often involves extensive patient education, requiring more time than the standard 15-minute appointment. Prevention of stones is well suited to a multidisciplinary approach that includes a nutritionist as well as the urologist and/or nephrologist. However, for all members of such a team to meet with patients, office visits are lengthy and occupy examination rooms often already in short supply. For these reasons, and because patients new to medical management frequently receive similar information about the pathophysiology of stones and prevention, we tested whether SMAs could be suitably adapted to our multidisciplinary stone clinic. To our knowledge, although applied to other urological conditions,<sup>13</sup> SMAs for kidney stones are not reported.

Specifically, we sought to 1) reduce wait times for new patient appointments (from 6 to 3 months or less), 2) improve physician productivity, 3) expand the number of new patients exposed to nutrition and 4) assess patient satisfaction with SMAs. We chose to focus on new patient visits, as these are generally ones in which standard information is provided and because it would impact our goal of initiating prevention close to a recent event.

## METHODS

Our SMAs were designed after reviewing the literature. Noffsinger, an expert in the field, described the 3 models of the drop-in group medical appointment, the cooperative health care clinic and the physical shared medical appointment.<sup>14</sup> After root cause analysis and process mapping to identify problems and solutions, we adapted aspects of each model. Our analysis of the suitability of urolithiasis for SMAs identified 6 attributes which support SMAs in this patient population (see Appendix).

### Planning and Development

We acquired institutional approval. We met with urology clinic management, medical support staff and schedulers

to develop a template. We wrote a scripted dialogue for schedulers when offering a group visit to a patient. If patients accepted, they were scheduled in a SMA. Before the appointment, patients were mailed a letter urging them to complete a 24-hour urine collection before the visit, giving directions to the clinic, and providing a consent form from our institution for sharing medical information with others during the appointment.

### Structuring the Visit

We determined that vitals would be taken but no physical examinations done. We developed learning objectives and a curriculum, which we planned to last no longer than 90 minutes, as recommended.<sup>7,14,15</sup> A consent form for participation and sharing of medical information in a group setting was designed by our institution. After collecting patient consent forms we began each visit with a presentation introducing them to the SMA and providing general background information. This included epidemiology, renal physiology, pathophysiology and risk factors, all presented by the urologist or nephrologist. This was followed by a focused diet assessment of each patient, conducted by the RD. We then gathered individual medical histories and reviewed each patient's 24-hour urine study, which was projected at the front of the room. Next, clinical decisions regarding medical and nutritional management were discussed with patients in the group setting. Each patient was provided a checklist that identified his/her specific risk factors. Finally, nutrition education was provided, including practical strategies to address common risk factors. Patients were reminded to focus especially on therapies for individual risk factors which were identified during individual rounds. At the end of the visit the RD left and the MA returned to administer a patient satisfaction survey and 2 brief tests to determine patient understanding of core nutrition concepts. Figure 1 shows the flow of events in a SMA. At checkout, patients received followup information and scheduled their next appointment.

### Outcome Measures

To assess for reduced wait time for appointments, we compared historical records of new clinic patients against those attending SMAs for date of initial request or call for an appointment to the scheduled date. To assess physician productivity we compared the number of patients seen before and after implementation of SMAs. To assess the number of new clinic patients receiving nutrition education, we compared the number of new clinic patient encounters with the RD before and after SMAs. We assessed patient satisfaction with a 17-item questionnaire we devised. The questionnaire had 4 domains of facility and organization, educational program and providers, shared appointment format and overall satisfaction. As patients who form kidney stones have decrements in health related quality of life,<sup>16</sup> and as medical management often requires behavioral changes that may be difficult to implement and sustain, we wanted to assess whether future SMAs might include a psychologist or other behaviorist. With this in mind, we asked if patients would have found it helpful if the SMA had included a psychologist. Finally, we assessed patient knowledge of

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