

Poster Exhibit 4: Infections

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UP-90

Evaluation of trends in treatment of metastatic hormone-sensitive prostate cancer across Canada during the COVID-19 pandemic

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Introduction: The impact of the COVID-19 pandemic on the management of metastatic hormone-sensitive prostate cancer (mHSPC) is unknown. Recent Canadian recommendations favor the use of androgen-receptor-axis targeted therapies (ARATs) over docetaxel to minimize risk of COVID-19 infections. We aimed to characterize how the pandemic has influenced current practice patterns of medical oncologists in Canada who treat mHSPC.

Methods: Using SurveyMonkey®, we conducted an online survey among 119 practicing members of the Genitourinary Medical Oncologists of Canada (GUMOC) in January 2021. The survey consisted of 16 questions, including demographics, treatment approach before and during the pandemic, and outcomes of any COVID-19-positive patients with mHSPC.

Results: Response rate was 42% (n=50). Most respondents were male (65%) and practiced in academic centers (71%). The majority (64%) described a change in practice patterns during the pandemic. For low- (LV) and high-volume (HV) mHSPC, the proportion of respondents offering ARATs increased from 73% to 79% and from 63% to 84%, respectively. Increased use of granulocyte colony-stimulating factor primary prophylaxis with docetaxel was reported by 35% of respondents, with 22% offering it to more than half of the patients on chemotherapy. Roughly half (45%) intend to maintain these practice changes beyond the pandemic. Only nine (18%) reported having mHSPC patients diagnosed with COVID-19, all of which were diagnosed prior to initiation of systemic therapy. Among these patients, 77% were treated with ARAT, none with docetaxel; four required hospitalizations (one required ICU), and all recovered.

Conclusions: During the pandemic, Canadian medical oncologists reported using more ARATs and less docetaxel for patients with mHSPC. Many plan to maintain these changes post-pandemic. Further research is warranted to examine whether these practice changes impact outcomes. Encouragingly, no deaths related to COVID-19 among patients with mHSPC have been reported.

UP-91

Association between patients' and urologists' perspectives with telemedicine

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Introduction: The COVID-19 pandemic has accelerated the development of telemedicine due to confinement measures. Excellent patient and doctor satisfaction rates were expressed in several studies conducted with patients

from different specialties. However, the potential association between patients' and doctors' perspectives was not assessed.

Methods: During the first four weeks of the first regional confinement, 1679 telephone consultations were assessed by all 18 urologists practicing in the region of Québec City as being either complete, suboptimal, or incomplete. Patients were contacted again to enquire about their perspectives on their telemedicine consultations. We used a French adaptation of a questionnaire inspired by the Patient Experiences Questionnaire for Out-of-Hours Care (PEQ-OHC).

Results: A total of 356 patients were contacted and 315 accepted to complete the questionnaire. Of this group, 104 were classified as non-oncologic, 121 as oncologic, 41 as cancer suspicion, and 49 as pediatric patients. The mean patients' satisfaction with their telephone consultation was 8.8/10 (median 9/10). Also, 86.9% of patients rated the quality of the consultation as either excellent or very good. However, 46.7% of patients would have preferred an in-person visit for their urological consultation outside of the pandemic. We found a significant association between urologists' perspective of consultation completeness and patients' preference to see their doctor in person (p=0.03), but not with overall satisfaction rate (p=0.6).

Conclusions: We found a positive association between patients' and urologists' perspectives of telemedicine. Half of the patients would have preferred an in-person visit. Nevertheless, they rated satisfaction with telemedicine as high. After the pandemic, it will be important to incorporate telemedicine as an alternative for patients' first or followup visits, especially those with geographical, pathological, and socioeconomic considerations.

UP-92

The impact of COVID-19 lockdown on prostate cancer investigations: An Australian experience

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Support: Epworth Medical Foundation.

Introduction: In response to the COVID-19 pandemic, a gradual and measured lockdown occurred in Australia from March 2020 and tightened in April 2020. This included both social restrictions, as well as restrictions to elective surgical procedures in an effort to both mitigate and prepare for spread of the virus. The state of Victoria, having undergone a second lockdown while the remainder of Australia normalized, enables a unique comparison between relatively closely matched populations and healthcare systems. Serum prostate-specific antigen (PSA), prostate magnetic resonance imaging (MRI), and prostate biopsy are key investigations into prostate cancer. We hypothesized that investigations for prostate cancer diagnosis and surveillance would be decreased as a result of COVID-19 social and clinical restrictions.

Methods: Medicare Item Reports were obtained from publicly listed sources for all PSAs, MRIs, and prostate biopsies in Australia from October 2019 to September 2020. Trends were observed and comparisons made to the previous year.

Results: The six-month average of PSA tests performed in Australia between October 2019 and March 2020 was 143 568. In April 2020, that number dropped to 96 479, a 32.80% decrease. A similar decline was noted in the number of multiparametric (mp) MRIs performed in April 2020, with 2806 scans performed compared to the average 3696 over the preceding

four months, a 24.08% reduction. Prostate biopsy numbers followed a similar trend, falling from a national six-month average of 1924 to 1496, a 22.25% decrease. Across the country, recovery was generally seen in the number of PSAs, mpMRIs, and prostate from May 2020 onwards, with the exception of Victoria, which continued to struggle with ongoing COVID-19 cases and their related restrictions.

Conclusions: This data shows a decrease in prostate cancer screening and surveillance throughout the COVID-19 lockdown in Australia. Further correlation with prostate cancer registries is needed to predict the “catch up” that is needed for delayed and missed diagnoses.

UP-93

Prolonged followup: The impact of telehealth implementation in a urology clinic during the COVID-19 pandemic

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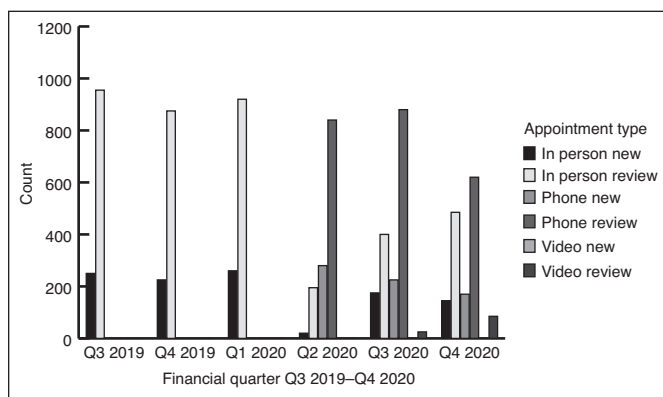
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Introduction: Prior to the COVID-19 pandemic, use of telehealth in urology was lower than other specialties. Widespread adoption of telehealth began April 2020 as a physical distancing measure. Restrictions on in-person encounters ended October 2020. This study aims to define the effect of telehealth on encounter outcomes in a urology outpatient clinic.

Methods: Urology outpatient clinic encounters at Ipswich Hospital, Queensland between July 2019 and December 2020 were retrospectively reviewed. Telehealth impact was assessed by comparing outcomes for different encounter modalities from October to December 2020 with those prior to telehealth implementation (July to December 2019). Bonferroni corrected goodness of fit Chi-squared tests were used for inferential statistics.

Results: Encounters increased 24% between Q3 2019 (n=1208) and Q4 2020 (n=1514) (Fig. 1). Eighty-four percent (n=1120) of all Q2 2020 encounters were telehealth; 58% of Q4 2020 encounters were still conducted via telehealth despite no restrictions. When comparing Q4 2020 outcomes to those before implementing telehealth (July to December 2019), significantly more patients were booked for further followup from all encounter types; this relationship was strongest for new ($\chi^2=130.04$, $p<0.003$) and review ($\chi^2=664.62$, $p<0.003$) phone encounters (Table 1). Significantly more patient attending in-person review encounters were booked for an elective operation ($\chi^2=16.68$, $p<0.003$) (Table 2). Significantly more patients were discharged from clinic when attending phone ($\chi^2=27.35$, $p<0.003$) (Table 3) compared with prior to telehealth implementation.

Conclusions: The largest change in outcomes after telehealth implementation was an increase the number of future review appointments booked. More work in patient selection for telehealth is needed to reduce inefficiencies with this model of care.



UP-93. Fig. 1. Urology outpatient appointments by type.

UP-93. Table 1. Outcome: Booked for followup encounter

	New phone	Review phone	New	Review	Review video
Yes	199.000	973.000	166.000	511.000	84.000
No	51.000	334.000	78.000	219.000	24.000
χ^2	130.042	664.617	58.130	27.983	13.598
p	<0.003*	<0.003*	<0.003*	<0.003*	<0.003*
V	0.723	0.713	0.489	0.196	0.355

*p<0.003, significant for alpha 0.05 adjusted for Bonferroni correction.

UP-93. Table 2. Outcome: Booked for operation

	New phone	Review phone	New	Review	Review video
Yes	151.000	168.000	79.000	154.000	4.000
No	250.000	1307.000	244.000	730.000	108.000
χ^2	0.869	2.726	16.995	16.679	8.581
p	0.351	0.099	<0.003*	<0.003*	<0.003*
V	0.047	0.043	0.230	0.137	0.278

*p<0.003, significant for alpha 0.05 adjusted for Bonferroni correction.

UP-93. Table 3. Outcome: Discharge from clinic

	New phone	Review phone	New	Review	Review video
Yes	27.000	234.000	31.000	66.000	17.000
No	374.000	1241.000	292.000	818.000	95.000
χ^2	1.770	27.349	0.413	14.238	1.473
p	0.183	<0.003*	0.521	<0.003*	0.225
V	0.060	0.136	0.036	0.127	0.115

*p<0.003, significant for alpha 0.05 adjusted for Bonferroni correction.

UP-94

The surgical management of prostate cancer during COVID-19 lockdown in Australia

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Introduction: In response to the COVID-19 pandemic, a lockdown occurred in Australia beginning in March 2020. This included both social restrictions, as well as restrictions to elective surgical procedures in an effort to both mitigate and prepare for spread of the virus. The state of Victoria, having undergone a second lockdown while the remainder of Australia normalized, enables a unique comparison between relatively closely matched populations and healthcare systems. Radical prostatectomy (RP) represents the gold-standard surgical approach for localized prostate cancer. Generally, it booked as a category 1 procedure and should be performed within 30 days. As such, we hypothesize that the number of RPs performed was minimally affected by the COVID-19 lockdown.

Methods: Medicare Item Reports were obtained from publicly listed sources for all prostatectomies in Australia from October 2019 to September 2020. Trends were observed and comparisons made to the same month the previous year.

Results: The six-month average of RPs performed in Australia between October 2019 and March 2020 was 612. In April 2020, that number dropped to 528, a 13.73% decrease. The following five-month average

(May to September) returned to 638 across Australia, representing an increase over the same period the previous year of 10.91%. Within this five-month period, Victoria endured a second lockdown as a result of ongoing COVID-9 community transmission. Its five-month average for number of RPs performed per month was 127, representing a percentage decrease of 12.40% on the previous year.

Conclusions: This data indicates minimal impact of COVID-19 restrictions on the volume of RPs performed in Australia, but Victoria, with its second lockdown, appears to have been more affected. This only represents the short-term impact of these restrictions on the management of prostate cancer, with the long-term impact of under-investigation and diagnosis likely yet to be reflected in the data.

UP-95

Virtual Objective Structured Clinical Examination during COVID-19: A 360 satisfaction assessment from examiners and candidates

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Introduction: The COVID-19 pandemic has led to major changes in the healthcare system, including medical education. In order to limit face-to-face interactions, teleconference mediums have been widely adopted for the delivery of curriculums, as well as examinations. The Queen's Urology Exam Skills Training (QUEST), an annual mock examination aimed at simulating the Royal College of Physicians and Surgeons of Canada (RCPSC) for chief residents across Canada, was moved to an online format for this year's cohort. This exam consists of an Objective Structured Clinical Examination (OSCE), as well as a written multiple-choice examination. Our study aimed to assess both examiners' and candidates' experiences and satisfaction with a teleconference format for the OSCE component of the examination.

Methods: A survey was sent to all examiners and candidates following the QUEST examination in December of 2020. The Telemedicine Satisfaction Questionnaire (TSQ), a previously validated tool for clinical encounters with three sub-domains (quality of care provided, similarity to face-to-face encounter, and perception of the interaction), was modified for the purposes of evaluating the OSCE encounter. The survey includes 14 questions, which are all answered using a five-point Likert scale.

Results: There were 14/16 responses from examiners (87.5%) and 24/39 responses from candidates (61.5%). Overall, the online format was judged to be a good experience by 13/14 (92.9%) of examiners and 21/24 (87.5%) of candidates. However, when asked specifically if the virtual OSCE was an acceptable way to determine a candidate's competency to practice urology independently, only 8/14 (57.1%) of examiners and 15/24 (62.5%) of candidates agreed.

Conclusions: This study demonstrates an overall good satisfaction rate among both examiners and candidates when using a teleconference format for a OSCE aimed at simulating the RCPSC examination. Further research is needed to determine ways of optimizing the virtual delivery of an OSCE should this method be used for licensing purposes moving forward.

UP-96

Lessons learned with remote research among older adults during COVID-19: A qualitative reflection

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Support: This research was supported in part by the 2020 Community Urologist CPD grant.

Introduction: Remote research promises to deliver many benefits, such as convenience, cost savings, and efficiency. The COVID-19 pandemic has hastened the trend toward telemedicine and remote research; how-

UP-96. Table 1. Central themes and subthemes for non-participation

Cohort	Themes	Subthemes
Withdrawn	Barriers to technology	Difficulty accessing support person
		Unfamiliarity with device
	Change in clinical course	Difficulty completing test
Declined	Barriers to technology	Concurrent hospitalization and/or illness
		Surgery no longer required
	Uninterested	Felt computer based test lacked purpose
Ineligible	Barriers to technology	No longer interested
		Unfamiliarity with device
	Communication	Poor internet access
		Conflicting priorities
		Felt study did not apply to them
		Patient unwilling to participate
		No access to electronic device
		Low socioeconomic status
		Difficulty communicating in English
		Unable to contact patient

ever, the remote setting presents a unique set of challenges. We sought to systematically assess our experience in conducting remote research in one multi-institutional longitudinal study using qualitative methods.

Methods: Co-Tele-Surge is an all-remote prospective study that aims to describe the perioperative cognitive trajectories of older adults (65 and older) who undergo general anesthesia with a one-year followup. Concurrently, we are conducting the present study using the sample of individuals who either withdrew, declined, or were ineligible for participation in Co-Tele-Surge. We use a modified qualitative descriptive analytic strategy as described by Neergaard et al (2009). This approach seeks to identify central themes and subthemes for non-participation among patients who withdrew, declined, or were ineligible.

Results: This study analyzes data from 123 individuals who declined to participate (46), were ineligible (55), or withdrew from participation (22) from the Co-TELE-SURGE study. A major theme present in all cohorts included difficulty with technology (28% of declined, 18% of ineligible, 36% of withdrawn). Other predominant themes included change in clinical course (23% of withdrawn), loss of interest (18% of withdrawn), uninterested (70% of declined), and communication (35% of ineligible). Table 1 demonstrates the predominant themes and subthemes of each cohort.

Conclusions: The major theme for non-participation with remote research in older adults was barriers to technology across all three patient groups. Limitations include uncertainty about whether thematic saturation was attained with current sample. Understanding barriers to participation can help to better retain and encourage participation in future remote studies involving older adults.

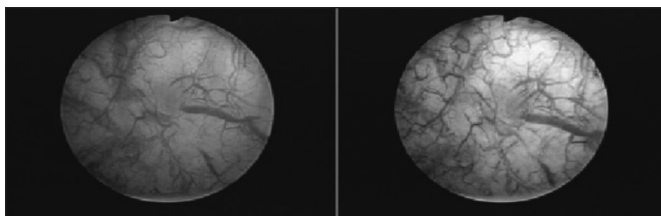
UP-97

Using narrow band imaging during flexible cystoscopy to improve the detection of pathognomonic indicators of bladder pain syndrome: A pilot study

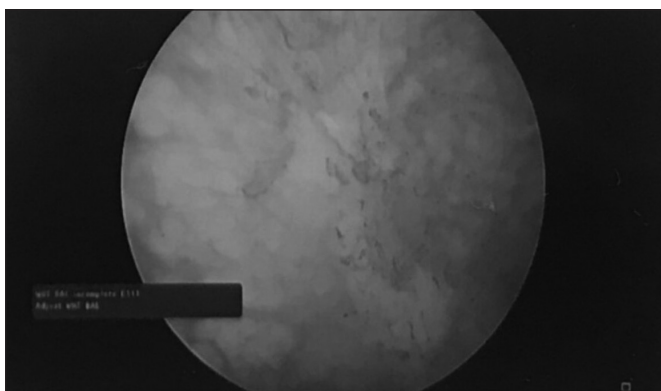
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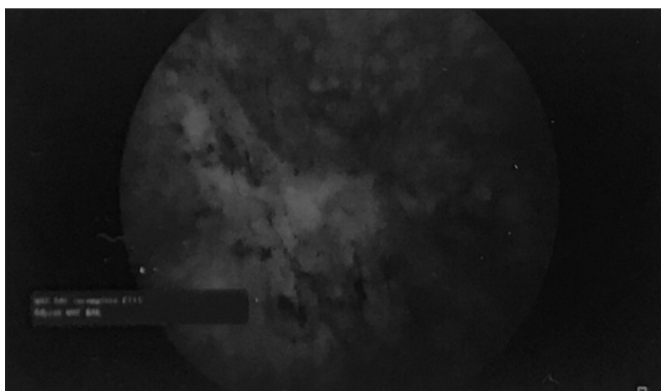
Introduction: Bladder pain syndrome (BPS) is a chronic condition that affects the urinary bladder. The BPS definition continues to evolve, as progressing research leads to better understanding of the condition. Diagnostic evaluation of BPS is derived from a combination of symptomology and pathognomonic findings, historically discovered at rigid cystoscopy and



UP-97. Fig. 1. Comparison of WLI (left) and NBI (right) for proven Hunner's ulcer at biopsy. Note the lack of identifiable features when viewed with WLI compared with NBI.



UP-97. Fig. 2. WLI view of a bladder at flexible cystoscopy. Note the lack of features/areas of abnormality (see Fig. 3).



UP-97. Fig. 3. The same bladder as Fig. 2 but viewed with NBI. Make note of the obvious abnormality at the center of the image (erythematous urothelium with centrally radiating telangiectasia to an area of fibrosis [Hunner's lesion]).

hydrodistension under general anesthesia. With technological advances, flexible cystoscopy (F/C) with conventional white light imaging (WLI) is routinely used for assessment of potential BPS patients. However, BPS remains a diagnosis of exclusion, and pathognomonic signs are notoriously difficult to identify.

Methods: We compared sensitivity of F/C using conventional WLI to sensitivity of F/C using narrow band imaging (NBI) in the detection of pathognomonic features of BPS in 85 patients (78 women, seven men) aged 18–80 years with BPS symptoms, randomized (over 12 months) to clusters. F/C was performed by proceduralist #1 with WLI, then NBI. The procedure was repeated immediately by proceduralist #2 and findings recorded separately. Using PS power and sample size calculator, sample size was calculated at 67 experiments and 67 controls sufficient to reject null hypothesis with a power of 0.99.

Results: The sensitivity of F/C using WLI was found to be 71% (60/85 cases). Assessment using NBI modality of the same WLI-positive bladders identified capillary-rich mucosa in all (100% sensitivity). NBI additionally showed capillary-rich areas without ulceration in a further 21 cases (reported as normal mucosa with WLI) and subsequently associated with glomerulation and petechial hemorrhage at hydrodistension. NBI diagnosed five cases of biopsy-confirmed bladder carcinoma in situ, which were missed with WLI.

Conclusions: Results suggest that detection of BPS lesions is increased by 25% when performing F/C with NBI compared with WLI (increased sensitivity of 25%). These results support inclusion of F/C with NBI in a diagnostic schema for BPS and should be further clarified with additional studies.

UP-99

A novel sublingual vaccine for recurrent urinary tract infection in women: Preliminary results from the pre-COVID-19 cohort in the first North American Uromune early clinical experience study

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Introduction: Recurrent urinary tract infection (rUTI) in women is a major clinical problem in Canada associated with massive antibiotic use, widespread morbidity, increasing antibiotic resistance, and significant direct/indirect costs. This is the first North American real-world study with objectives to gain early clinical practice experience with respect to the effectiveness and safety of Uromune, a novel bacterial sublingual spray mucosal-type vaccine developed for the prevention of rUTI.

Methods: Female participants with ≥ 3 documented UTI/year underwent a three-month vaccination treatment period with a further 12 months follow-up after completion of vaccine treatment (total 15 months). Primary outcome was no UTI following vaccination. Recruitment was put on temporary hold on March 15, 2020 due to a COVID-19-mandated clinical research shutdown. We present the nine-month data in the pre-COVID-19 cohort.

Results: Twenty-five female subjects (mean age 57 years, range 26–79) had been enrolled before recruitment shutdown and nine-month data is available for this cohort. *E. coli* was the predominant causative organism (72%) with *Klebsiella*, *Enterococcus*, *Proteus*, and *Pseudomonas* species associated with the remaining UTIs. Reduction in UTI rate was 71% for the six months post-vaccination (mean 0.8/6 months), compared to six months prior to baseline (pre-vaccination) UTI rate (mean 2.8/6 months). The UTI-free rate for the six months post-vaccination was 48% (12/25). Five non-serious adverse events (AEs) and one serious AE were noted in six subjects: only one mild and self-limited AE was potentially related to the vaccine. Recruitment restarted July 2021, with 45 subjects enrolled to date.

Conclusions: This first Health Canada-approved North American experience with the novel sublingual vaccine, Uromune, demonstrates its safety and potential effectiveness in reducing UTI rate and rendering a significant number of women suffering from rUTIs completely UTI-free.

UP-100

Association between radical cystectomy prophylactic antimicrobial regimen and postoperative infection

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Introduction: Infections are common after radical cystectomy. The objective of this study was to determine the association between antimicrobial prophylactic regimen and infection after radical cystectomy.

Methods: A historical cohort study was performed on patients who underwent radical cystectomy at a tertiary Canadian center between January 2016 and April 2020. Patients received antimicrobial prophylaxis based

on surgeon preference (cefazolin/metronidazole or ampicillin/ciprofloxacin/metronidazole or other). A univariable and multivariable logistic regression model was created to determine the association between antimicrobial regimen and postoperative infection within 30 days. Infection characteristics including type, timing, and antimicrobial susceptibilities were also reported.

Results: There were 165 patients included. Mean age was 69.8 years (standard deviation [SD] 10.2), 121 (73.3%) were male, and 72 (43.6%) had orthotopic neobladder diversion. Ninety-six patients (58%) received cefazolin/metronidazole prophylaxis, 50 (30%) received ampicillin/ciprofloxacin/metronidazole, and 19 (11.5%) received another regimen. Surgical site infection occurred in 35 patients (21.2%) and urinary tract infection (UTI) occurred in 34 (21.0%). There was no association between

antimicrobial regimen and postoperative infection (risk ratio [RR] 0.99; 95% confidence interval [CI] 0.50–1.99). Median time to infection was 12 days. Twenty-two patients (22/69, 31.9%) required re-admission, and 32 patients (32/69, 46.4%) developed sepsis. The most common causative organism was *Klebsiella* sp. for surgical site infections (11/35; 31.4%) and *E. coli* for UTI (9/34; 26.5%). Thirteen patients (13/69; 18.8%) had >2 organisms cultured. Resistance was to ampicillin in 58%, cefazolin in 30%, amox/clav in 28%, and ceftriaxone in 24%.

Conclusions: Infections are common after radical cystectomy. There was no association between antimicrobial regimen and incidence of postoperative infection. Further study is required to determine optimal prophylactic antimicrobial regimen and timing.