OPTUM Care®

March 2021

# Forum for Evidence-Based Medicine

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| **Activity description** | Practicing evidence-based medicine (EBM) is important in today's health care environment because this model of care offers clinicians a way to enrich quality, provide patient satisfaction, reduce costs and improve outcomes. A common implementation of EBM involves the use of clinical practice algorithms during medical decision-making to encourage optimal care. This widely recognized practice is designed to address the persistent problem of clinical practice variation with the help of actionable information at the point of care. These e-newsletters will enable health care professionals (HCPs) to put new EBM into practice. |
| **Target audience** | This activity is designed to meet the educational needs of physicians, PAs, nurses, nurse practitioners and other HCPs who have an interest in EBM. |
| **Learning objectives** | At the end of this educational activity, participants should be able to:<br>• Identify educational content and resources on the surveillance of papillary thyroid cancer and advanced liver fibrosis.<br>• Review the data on triple inhaler therapy for moderate to severe asthma.<br>• Discuss the adverse events from oral corticosteroid within the first thirty days.<br>• Apply medical management principles grounded in evidence-based medicine regarding new-onset sciatica, nonsurgical treatment of appendicitis and the utility of nocturnal oxygen supplementation in chronic obstructive pulmonary disease (COPD). |

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## Active surveillance of papillary thyroid cancer

Analogous to Gleason 6 prostate cancer, the prognosis of small papillary thyroid cancers is remarkably good with very infrequent progression to metastatic disease and rare mortality. The 30-year cancer-specific survival for papillary thyroid cancer is 97%.[1] In 2015, guidelines for the management of papillary thyroid cancer recommended the consideration of active surveillance; however this management option is rarely recommended or successfully adopted in the United States.[2]

Two-thirds of thyroid cancers in this country are small papillary thyroid cancers and the rate of diagnosis of these cancers has increased 380% in the past 25 years. There has not been a similar increase in mortality, suggesting a highly significant degree of overdiagnosis and overtreatment. With this as background, a Japanese study reported their experience in over 2,100 patients with newly diagnosed small papillary thyroid cancer (<1 cm).[3] A total of 1,179 patients (55%) chose active surveillance and form the study population for this report. The patients ranged in age from 15–88 and 90% were women. Patients were followed by ultrasound at six-month intervals for the fist year and then annually. The median follow-up was six years and ranged to over 12 years. 91.4% of patients adhered to the follow-up ultrasound schedule, and of those that did not adhere, the large majority were related to advanced age or concomitant life-threatening illness. Only 4.5% of patients chose to proceed to surgery for personal reasons and only 6.4% of patients had surgery due to physician concerns based on follow-up ultrasounds. Only 0.09% developed lymph node metastases requiring surgery, and no patients developed distant metastatic disease. There were no thyroid cancer related deaths.

The remarkable success of the program could be attributed to three factors:[4]

1. Delivery of information and education about papillary thyroid cancer and active surveillance before the biopsy sample is taken, at a time when anxiety over a new diagnosis of cancer was not present
2. Presentation of a choice to the patient with a clear, consistent physician recommendation for active surveillance as appropriate and safe, with the option to change to surgery if required or desired
3. Regular reassessment and reassurance about the risk at each follow-up visit and emotional support provided by the clinician to the patient for the choice taken

The University of Wisconsin in collaboration with HIPxChange has an excellent patient decision thyroid cancer treatment resource available, click **here**. Use the link provided to access the Thyroid Cancer Treatment Choice Toolkit. At the top of the page, click the View the Toolkit button to register.

This model of care should serve as a template for active surveillance discussions around not only small papillary thyroid cancers, but also for very low risk and low risk prostate cancers. Unfortunately, although the active surveillance rates of Gleason 6 prostate cancers are slowly improving, they still remain below 50%.[5] This is despite the fact that the ten-year prostate cancer specific survival in a cohort of patients followed under active surveillance is over 98%.[6] As part of the ongoing development of the OptimalCare program, there are two significant additions in 2021 specifically related to active surveillance in prostate cancer patients.

- The first is the development of a shared decision-making aid analogous to the papillary thyroid cancer version; this is also attached to the Forum. Just as in the papillary thyroid cancer example above, the discussions with the patient should begin at the time of the referral to the urologist for a PSA elevation. Waiting until the patient and the urologist have the post biopsy discussion around the new diagnosis of "prostate cancer" will significantly reduce the impact of the shared decision-making process due to anxiety around the diagnosis. This prebiopsy discussion should be a primary care priority. Click **here** to view the Localized Prostate Cancer handout, located at the end of this newsletter.
- The second OptimalCare addition is the creation of a natural language processing (NLP) engine which will review EMR data and calculate the active surveillance rates by urologist and urology practices across Optum Care. Redirection of referrals to urologists willing to employ an active surveillance strategy in the appropriate patients will improve health outcomes, and reduce both the harms of treatment and the cost of care of our patients with very low risk and low risk prostate cancer.

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## DM2 and the high rate of advanced liver fibrosis

Nonalcoholic fatty liver disease (NAFLD) has become the most common chronic liver disorder worldwide, and is the most rapidly growing indication for liver transplant, ranking second in the United States behind alcoholic liver disease.[7] Twenty-eight percent of transplants in 2019 were related to NAFLD progressing to NASH and cirrhosis.[8] Because this progression is tightly linked to insulin resistance and the metabolic syndrome, it is frequently seen in patients with DM2. The best predictor of cirrhosis is early liver fibrosis, since only about 3–4% of patients with fatty liver will progress to cirrhosis. Although screening tools are now available, they are not being widely used to screen the population of patients with NAFLD to determine which are showing signs of early liver fibrosis. The available screening tests fall into the categories of blood-based testing and imaging.

The former can be more easily implemented in routine practice, but involve the use of fibrosis calculators (the NAFLD fibrosis score) which utilizes multiple clinical parameters, or specific proprietary laboratory tests which can cost as much as $500. Additionally, the performance of these tests remains suboptimal in patients with DM2.[9] Ultrasound transient elastography (TE) is an inexpensive test (~$75) that compares favorably with MRI for the detection of liver fat and fibrosis.[10] A study in *Diabetes Care*[11] looked at 825 patients with DM2 in the 2017–2018 cycle of the National Health and Nutritional Examination Survey (NHANES) who had TE performed as part of their comprehensive examination that included physical examination and lab parameters. The mean age was 60 years and 53% were male. The findings showed that 74% of patients had some degree of NAFLD with 58% having grade 3 steatosis, the highest grade. The prevalence of significant fibrosis (≥ F2) was 23.8%. The number of patients with advanced fibrosis (≥ F3) was 15.4%, and 7.7% of patients had cirrhosis (F4). No significant differences were found for sex or Hispanic ethnicity. Obese patients, as would be expected, had a higher prevalence of both steatosis and advanced fibrosis. A European study using TE evaluated 534 patients and found a prevalence of steatosis of 76.1%, with 19.6% of patients having advanced fibrosis and 8.2% with cirrhosis, findings that are highly concordant with the U.S. results.[12]

In 2016, the European Association for the Study of the Liver, the European Association for the Study of Diabetes, and the European Association for the Study of Obesity jointly published guidelines that recommended routine screening for NAFLD and advanced fibrosis in patients with T2DM.[13] To date, there are no similar guidelines in the U.S. Early detection is critical as hepatic fibrosis responds to various pharmacotherapies as well as significant weight loss including bariatric surgery when indicated. A high index of suspicion should be maintained when evaluating patients with DM2, particularly in the setting of obesity, abnormal LFT's, and concomitant alcohol excess. The NAFLD fibrosis score calculator, **nafldscore.com/** is freely available and straightforward to use. TE is available in at least some of our markets and may become the screening test of choice in this population of high-risk patients.

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## Adding umeclidinium to inhaled corticosteroid plus long-acting $\beta_2$-agonist (triple inhaler therapy) slightly improves lung function but does not reduce asthma exacerbations

Asthma guidelines have recently changed and now recommend the use of a prn inhaled corticosteroid/long-acting $\beta_2$-agonist (ICS/LABA) combination for mild persistent asthma, and daily use of the combination therapy for moderate persistent asthma. Despite this therapy, a portion of patients remain symptomatic and poorly controlled. A recent study evaluated the benefit of adding a second long-acting bronchodilator, umeclidinium.[14] ICS/LABA treatments with and without the addition of umeclidinium were compared: fluticasone plus vilanterol (FF/VI) versus fluticasone plus umeclidinium plus vilanterol (FF/UMEC/VI).[14] The primary outcome was the change in lung function (trough FEV1) at 24 weeks. The key secondary outcome was the rate of moderate asthma exacerbations requiring increased need for rescue therapy and temporary change in maintenance treatment and/or severe asthma exacerbations requiring hospital admission.

In a double-blind, randomized, industry sponsored phase 3 study, 2,439 patients were recruited from 416 hospitals and primary care centers across 15 countries. Patients were at least moderately severe asthmatics with inadequately controlled symptoms despite daily ICS/LABA therapy. They had a mean predicted FEV-1 of 58% and 63% had a significant exacerbation in the prior year. Study participants were assigned control and investigational arms administered via dry powder inhaler.

Control arms (ICS/LABA therapy):

- FF/VI 100/25 µg
- FF/VI 200/25 µg

Treatment arms (triple inhaler therapy):

- FF/UMEC/VI 100/31.25/25 µg
- FF/UMEC/VI 100/62.5/25 µg
- FF/UMEC/VI 200/31.25/25 µg
- FF/UMEC/VI 200/62.5/25 µg

The addition of UMEC (62.5 and 31.25 µg) resulted in statistically significant ($p<0.001$) changes in FEV1 from baseline when compared to both the FF/VI 100/25 µg and 200/25 µg groups at 24 weeks. The mean improvements in FEV1 were small and of uncertain clinical significance, ranging from 82 mL to 110 mL. Additionally, 1,075 moderate or severe asthma exacerbation events occurred among all participants during the study period. The pooled analysis demonstrated that the addition of UMEC 62.5 µg resulted in a non-significant 13% reduction in asthma exacerbations, with no changes in the rate of severe exacerbations, and no change in the duration of moderate or severe exacerbations. Asthma symptom scores were slightly improved with triple inhaler therapy.

Overall, the addition of UMEC led to a statistically significant improvement in trough FEV1 at 24 weeks, but the degree of FEV-1 improvement likely is of little clinical relevance. The numbers of moderate and severe asthma exacerbations were not statistically different between patients treated with UMEC and those not treated with UMEC. Importantly, the cost of adding UMEC is substantial, typically in the $600–$1,000 range yearly. For patients with eosinophilia or other markers of type 2 inflammation, doubling the dose of the ICS was more effective than triple inhaler therapy in preventing severe exacerbations. For those patients failing maximum doses of ICS/LABA therapy, a trial of triple inhaler therapy may be important prior to initiating far more expensive biologic therapies.

## Adverse events from oral corticosteroid bursts most common within 30 days

Adverse events from long-term corticosteroid use are well-described and include gastrointestinal bleeding and ulcers, infections, Cushing syndrome, diabetes, cataracts, glaucoma, and osteoporosis. Few studies have examined adverse events related to a single oral steroid burst of 14 or fewer days. A recent study used medical records from the National Health Insurance Research Database (2013 through 2015) in Taiwan to characterize adverse events following an oral steroid burst.[15] Adverse events were identified within 5–30 days of steroid initiation and during the subsequent 31–90 days.

Out of over 15 million medical records for adults aged 20–64 years, 2,623,327 patients received oral steroid bursts. Common adverse events included gastrointestinal bleeding, sepsis, and heart failure. The table below (modified from Yao, et al.)[15] compares incidence rates per 1,000 person-years of adverse events among patients who received burst steroids and patients who did not receive steroids.

Incidence rate ratios were used to compare study periods pretreatment, 5–30 days and 31–90 days from steroid initiation. Rates of each adverse event significantly increased in the first 30 days, followed by subsequent attenuation. The incidence rate ratios in the 5–30-day period compared to the pretreatment period were 1.8 for gastrointestinal bleeding, 1.99 for sepsis, and 2.37 for heart failure.

The study demonstrates that oral steroid bursts are associated with adverse events that usually occur within the first 30 days of treatment. This is most pronounced for GI bleeding where the overall incidence approaches 3%. These rates would be expected to be significantly higher in the elderly and underscore that fact that steroid bursts should not be used without a clear evidence base supporting a benefit that outweighs the risks.

**Table. Adverse event rates for patients with and without steroid bursts**

| | Steroid burst | No steroids |
|---|---|---|
| **Adverse event** | **Incidence rate per 1,000 person-years [95%CI]** | **Incidence rate per 1,000 person-years [95%CI]** |
| GI bleeding | 27.1 [26.7–27.5] | 10.3 [9.9–10.7] |
| Sepsis | 1.5 [1.4–1.6] | 1.4 [1.4–1.4] |
| Heart failure | 1.3 [1.2–1.4] | 0.4 [0.4–0.4] |

## Patients with sciatica have similar outcomes regardless of their initial treatment

A recently published, randomized clinical study compared a stratified care approach to "usual care" for the diagnostic evaluation and treatment of new-onset sciatica.[16] The stratified care model used the overall and subscale scores from the STarT back tool and clinical features (leg pain scale score, pain present below the knee, pain interference score, and "objective" sensory deficit) to guide patient care into three groups:

- Group 1 (low risk): Brief self-management support (up to two sessions with a physiotherapist)
- Group 2 (medium risk): Physiotherapy course, up to six sessions
- Group 3 (high risk): MRI and specialist referral

An algorithm in the *Lancet* article (Figure 1)[17] delineates how scores and symptoms were used to stratify patients. Patients randomized to the control arm (usual care) were seen by a physiotherapist in clinic who determined further management. Options for further management included discharge back to the primary care provider, referral to community physiotherapy services, or referral for spinal specialty care. Physiotherapists in this study attended training workshops prior to patient recruitment. A total of 476 patients were randomized. The stratified care cohort reported minimally faster relief of symptoms (median two weeks) compared to the usual care arm, but this was not statistically different. Other outcomes — pain, function, psychological health, days lost from work, work productivity, satisfaction with healthcare, and healthcare use — did not differ between groups. The results of this trial provide validation of the OptimalCare algorithm and serve to reinforce its use in daily practice.

The OptimalCare Back Pain module is available on the shared decision-making website that incorporates the STarT back tool and stratifies treatment options according to the score.

To view the current shared decision-making modules, click **here.**

To view all the orthopedic/back pain algorithms, click **here.**

## Nonsurgical treatment of appendicitis: Ready for prime time

Antibiotics are an effective alternative to surgery for uncomplicated cases of acute appendicitis. Sippola and colleagues investigated use of an oral broad, spectrum antibiotic, moxifloxacin (400mg/d), compared to initial intravenous antibiotic therapy followed by oral therapy for acute appendicitis defined by CT scan.[18] Patients were 18 to 60 years of age and had CT evidence of non-complicated appendicitis on scan. Exclusion criteria included pregnancy (or lactation), antibiotic or contrast allergy, renal insufficiency, immunosuppression of any kind, severe systemic illness or diabetes and use of metformin. Patients were randomized (1:1) to receive either oral moxifloxacin (n= 295) for seven days compared to intravenous ertapenem (1 gm/d) for two days followed by five days of oral levofloxacin (500mg/d) and oral metronidazole (500mg, 3 times/d)(n= 288). Success was defined as discharge from the hospital without surgery and no recurrence at one year. The goal was to have the two treatment arms show a success rate of greater than 65% and non-inferiority between the treatment arms of less than 6%. The mean age of the 599 randomized patients was 36 years and 44% were women. Five hundred eighty-one (99.7%) patients were available for follow-up at one year. Treatment results are summarized in Table 1.

**Table 1**

| Treatment | Number | Appy during initial hospitalization N (%) | Appy within 1 yr of initial hospitalization N (%) | Therapeutic success % (1 side 95% CI) |
|---|---|---|---|---|
| PO moxifloxacin alone | 295 | 27 (9.2) | 61 (20.7) | 70.2 (65.8 to ∞) |
| Ertapenem IV + PO levo + metro | 288 | 22 (7.6) | 53 (18.5) | 73.8 (69.5 to ∞) |

PO = oral, Levo = levofloxacin, Metro = metronidazole, CI = confidence interval

These results exceed the pretrial expectation of a success rate of greater than 65% and demonstrate a non-inferiority of less than the 6% threshold sought at trial onset.

This study extends earlier studies demonstrating the safety and efficacy of nonsurgical treatment of uncomplicated appendicitis. These trials are summarized in Table 2 on the next page.

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The first trial (Trial 1, Table 2), the APPAC trial compared surgical intervention to antibiotics, had a success rate of 72.7% at one year and 60.9% at five years with lower complication rates for nonsurgical treatment at both time frames.[19] The second trial (Trial 2, Table 2) of more than 1,000 children at 10 U.S. children's hospitals demonstrated a similar success rate at one year of 67.1% of antibiotic therapy alone.[20] The third trial (Trial 3, Table 2) included of over 1,500 adults and showed a success rate of antibiotic therapy alone of 71%.[21]

**Table 2**

| Trial | Treatment | Participant number | Follow-up | Success (%) | Complication |
|---|---|---|---|---|---|
| 1 | Surgery | 273 | 5 years | NA | 20.5% 1 year; 24.4% 5 years |
| 1 | Antibiotics alone | 256 | 5 years | 72.7 | 2.8% 1 year; 6.5% 5 years |
| 2 | Surgery | 698 | 1 year | NA | 3.6% 1 year |
| 2 | Antibiotics alone | 370 | 1 year | 67.1 | 3.3% 1 year |
| 3 | Surgery | 776 | 90 days | NA | 3.5% at 90 days |
| 3 | Antibiotics alone | 776 | 90 days | 71 | 8.1% at 90 days |

NA = not applicable as surgical treatment considered successful

These trials and others demonstrate the non-inferiority of antibiotics compared to surgical treatment of uncomplicated appendicitis. Sippola has shown oral antibiotics are equally effective compared to intravenous followed by oral therapy. Importantly, multiple trials also show equivalent of better patient satisfaction and less resource expenditures associated with nonsurgical treatment. Nonoperative management of uncomplicated appendicitis should be considered in appropriate patients.

## The utility of nocturnal oxygen supplementation in COPD

The utility of oxygen supplementation at night in persons with COPD is not clear. A multicenter international study was designed to further define the benefit from nocturnal oxygen.[22] Patients with COPD and an oxygen saturation of less than 90% for at least 30% of the nocturnal recording time were enrolled in the trial in a 1:1 randomization to oxygen or sham concentrator (placebo). Pretrial analysis suggested the need to enroll 600 patients. The primary endpoint was death from any cause or advancement to long-term oxygen therapy as defined by the Nocturnal Oxygen Therapy Trial (NOTT) criteria. Eligible patients had COPD, did not require long-term oxygen therapy at baseline according to the NOTT criteria and did not have sleep apnea. They had not smoked in six months and did not have left heart failure, interstitial lung disease, bronchiectasis, lung cancer, severe obesity (BMI≥ 40) or any other disease known to influence survival.

The trial was stopped prematurely because of recruitment and retention difficulties after enrollment of 243 patients (123 in the oxygen group and 120 in the control group). Baseline characteristics did not differ between the groups. An intention-to-treat analysis at three years of follow-up showed no significant differences between the two groups. Thirty-nine percent of the nocturnal oxygen group and 42.0% of the placebo group met the NOTT defined criteria for long-term oxygen therapy or had died. A time-to-event analysis comparing the nocturnal oxygen and placebo groups in the composite outcome revealed no significant differences in either death or the requirement for long-term oxygen therapy.

This study was under powered, therefore the authors looked at its results in combination with other studies looking at patients with COPD and isolated nocturnal desaturation. The results of this study and two previous studies were reported in a meta-analysis which also failed to show evidence that nocturnal oxygen therapy was of benefit in COPD patients with isolated nighttime oxygen desaturation.[22] Despite the wide confidence intervals in this study, these results along with the subsequent meta-analysis suggest that it is unlikely that nocturnal oxygen therapy is of benefit in COPD patients with isolated nighttime oxygen desaturation.

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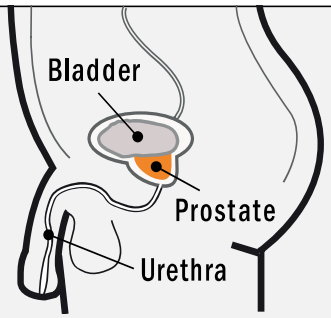
# Localized Prostate Cancer

**50 - Localized Prostate Cancer Adult-CLB** Date of Birth: 01/01/1970

Localized prostate cancer is cancer that has not moved outside of the prostate or spread to other parts of the body. There are several ways to treat or monitor localized prostate cancer. The purpose of this guide is to inform you about treatment and monitoring options so that you and your doctor can decide which option is best for you.




## What are my treatment and monitoring options?

**Three common approaches to the management of localized prostate cancer are described below:**

1 **Active surveillance** means that your doctor closely monitors your prostate cancer for changes, but no treatments are given. It does not mean "never treat," but rather watchful waiting to see if the cancer worsens and treatment is needed. During active surveillance your doctor will monitor a blood test called prostate-specific antigen (PSA) and perform periodic prostate exams. Repeat prostate biopsies and imaging tests are done as well. If the cancer starts to cause symptoms or there are signs that it is growing or becoming aggressive, then treatments are offered.

Active surveillance is usually offered to men with localized prostate cancer that is considered to be at low risk of worsening (or "favorable risk"), based on the biopsy and other testing results. It may seem counter-intuitive that you can be diagnosed with cancer and then be told to watch and wait. But several studies have shown that men with favorable-risk prostate cancer are at low risk of any harm from their diagnosis, including death. In these cases, the benefits of watchful waiting may outweigh the risks associated with treatment.

2 **Radiation therapy** uses radiation aimed at the prostate to kill cancer cells. There are two common types of radiation therapy: external beam radiation and brachytherapy.

| | |
|---|---|
| **External beam radiation** | External beam radiation uses a machine called a linear accelerator to aim a high-energy beam of radiation at the prostate cancer, with the goal of sparing other tissues near the prostate. External beam radiation can be done as the only treatment or in combination with other treatments. The types and severity of side effects are related to the amount (or dose) of radiation given. |
| **Brachytherapy** | Brachytherapy involves the placement of radioactive material directly into the prostate. Radiation from the material kills the prostate cancer cells and has less of an effect on neighboring tissues. |

3 **Surgery or radical prostatectomy** is the surgical removal of the entire prostate gland and some of the surrounding tissues.

## What are the risks and benefits of each treatment and monitoring option?

The table below lists some of the potential risks and benefits associated with each treatment and monitoring option. It is important that you discuss with your doctor all of the risks and benefits that may affect you.

| | Potential Risks | Potential Benefits |
|---|---|---|
| Active surveillance | Cancer growth and spread; Frequent medical appointments; Fewer treatment options if cancer spreads; Anxiety about having cancer and not treating it | "Favorable risk" prostate cancer may never cause harm. Since you may never need treatment, you could avoid all of the risks associated with treatment. |
| Radiation therapy (External beam radiation) | Erectile dysfunction (impotence); Frequent or painful urination; Rectal bleeding; Blood in urine; Rectal or urinary leakage; Fatigue; Skin reactions; New cancers near the radiation site; Frequent medical appointments | External beam radiation can successfully treat prostate cancer. It can also be used with other treatments or after surgery. |
| Radiation therapy (Brachytherapy) | Erectile dysfunction (impotence); Frequent or painful urination; Not being able to empty the bladder; Rectal bleeding; Blood in urine; Frequent bowel movements; New cancers near the radiation site; Narrowing of the tube that carries urine from the bladder (urethra); Abnormal opening in the wall of the rectum | Brachytherapy can successfully treat prostate cancer. |
| Surgery (radical prostatectomy) | Erectile dysfunction (impotence); Other sexual dysfunction (dry orgasm); Urinary incontinence; Injury to the rectum (rare); Narrowing of the tube that carries urine from the bladder (urethra); Formation of cysts containing lymph (lymphocele); Surgical complications including cardiovascular events, blood loss, and infection; Other complications from anesthesia | Surgery can successfully treat prostate cancer. |

## How do outcomes compare between active surveillance, radiation therapy and surgery?

10 years after diagnosis of localized prostate cancer, the rate of death caused by cancer is low irrespective of whether patients start with active surveillance, radiation therapy, or surgery. Data from a large randomized study are provided below:

| | Disease progression | Total cancer deaths |
|---|---|---|
| Active surveillance | 229 per 10,000 | 15 per 10,000 |
| Radiation therapy | 90 per 10,000 | 7 per 10,000 |
| Surgery | 89 per 10,000 | 9 per 10,000 |

**About 55 out of 100 men** who initially start active surveillance will eventually go on to have some form of treatment.

**The following complication rates were reported by patients over the past two decades:**

Complication rates may improve over time with newer technologies and advances in surgical and radiation therapies.

**46 out of 100 men** who underwent surgery for prostate cancer reported using absorbent pads for urinary incontinence 6 months after surgery. Urinary incontinence can improve over time. **Only 4 out of 100 men** who had active surveillance and **6 out of 100 men** who had external beam radiation reported urinary incontinence at 6 months.

Some men have sexual dysfunction at the time of their prostate cancer diagnosis. Six months after diagnosis, **48 out of 100 men** who had active surveillance reported sexual dysfunction. **78 out of 100 men** who had external beam radiation reported sexual dysfunction. **88 out of 100 men** who had surgery reported sexual dysfunction.

## What treatment or monitoring option is best for you?

Although the lifetime risk of receiving a prostate cancer diagnosis is about 17%, the risk of dying from the cancer is much lower, at about 3% to 6%. You and your doctor should choose the best management approach for your cancer based on your risk of cancer progression, whether you have other medical illnesses, your baseline urinary, sexual, and bowel function, and your own treatment or monitoring preferences.

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## Kenneth Roy Cohen, MD, FACP

Dr. Kenneth Cohen is an experienced physician leader, practicing internist, and researcher who has attained national recognition for health care quality improvement. He was one of the founding physicians of New West Physicians, which is the largest primary care group practice in Colorado and now part of Optum Care. He served as Chief Medical Officer from 1995 - 2020. He now serves as the Executive Director of Clinical Research for UHG R&D and Senior National Medical Director for Optum Care. Dr. Cohen has received awards of recognition and distinction for teaching, including the Lutheran Medical Center Physician of the Year award in 2011. Under his stewardship New West Physicians was awarded the AMGA Acclaim award in 2015 and the Million Hearts Hypertension Champion Award in 2017. He is a Clinical Associate Professor of Medicine and Pharmacy at the University of Colorado School of Medicine. Dr. Cohen holds degrees from Dickinson College and Hahnemann University. He is a Fellow of the American College of Physicians and a member of the Phi Beta Kappa and Alpha Omega Alpha honor societies.

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## John Hitt, MD, MBA

Dr. Hitt has been a physician executive for more than 25 years. Most recently he was the CMO of Ativa Medical a medical device startup company and an independent health care consultant. Previously, he was CMO at Maricopa Integrated Health System (MIHS) and a key member of the senior leadership team having responsibility for Medical Staff Services, Grants and Research, Academic Affairs, Risk Management, physician contracted services and the activity of Residency Program Directors, Clinical Department Chairs, and Medical Staff.

Dr. Hitt has over 25 years of experience in quality and performance improvement, clinical integration, academic and medical staff affairs. He served as the Chief Medical Quality Officer for Hennepin Health System, a premier Level 1 Adult and Pediatric Trauma Center. He was a physician leader for VHA (now Vizient). He was the national Medical Director for Disease Management at Caremark International and the VP of Medical Affairs at the University of Minnesota Hospital.

Dr. Hitt is a graduate of the University of Virginia where he played Division 1 soccer. He received his Medical Doctorate from the Medical College of Georgia in 1984 (AOA honors) and completed his Internal Medicine and Infectious Disease Fellowship training at the University of Minnesota Hospital and Clinics. Dr. Hitt completed his MBA at the Carlson School of Management at the University of Minnesota in 2003. He is the proud father of seven children.

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## Geoffrey Heyer, MD

Dr. Heyer is board certified in neurology with special certification in child neurology and in headache medicine. Prior to joining our team, Dr. Heyer was an associate professor of neurology and pediatrics at The Ohio State University and Columbia University Medical Center, specializing in autonomic disorders, headache, and pain management. He has published over 50 peer-reviewed research papers and numerous editorials, clinical reviews, and textbook chapters. He also co-authored a textbook on childhood stroke and cerebrovascular disorders.

Dr. Heyer received his medical degree from Columbia University, College of Physicians and Surgeons. He completed his neurology and child neurology residencies at Columbia-Presbyterian Medical Center. He has additional research training from the Mailman School of Public Health, Columbia University.