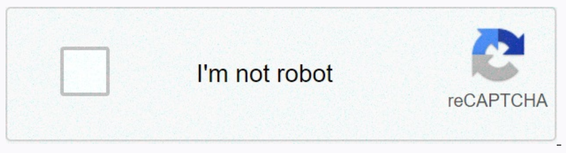


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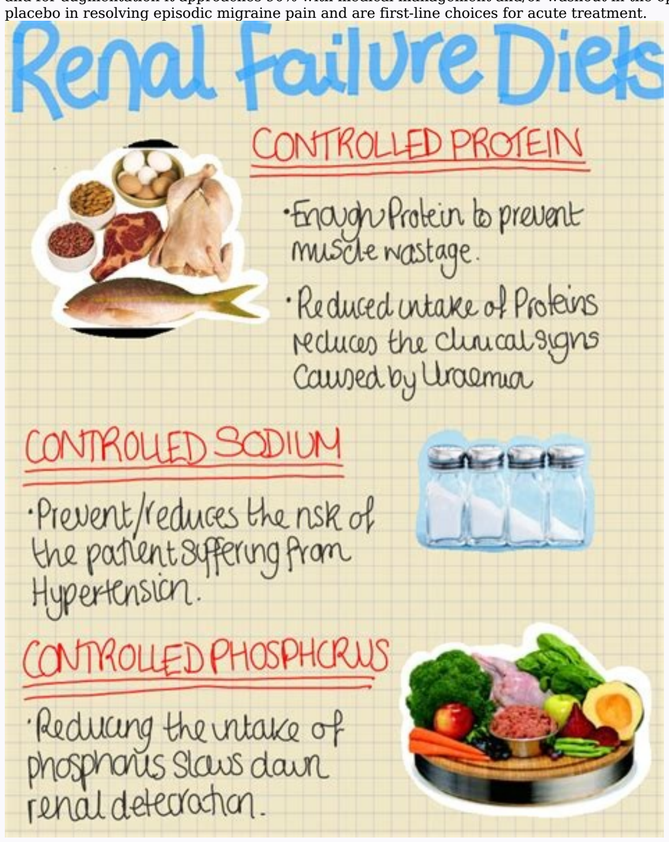
# Dietary guidelines for end stage renal disease

End-stage renal disease (ESRD) is when kidney function is no longer adequate for long-term survival without kidney transplantation or dialysis.1,2 The estimated glomerular filtration rate (GFR) is usually less than 15 mL per minute per 1.73 m2 when this occurs.3 Kidney failure, a more concise term, may soon replace ESRD.4 The incidence of ESRD increased more than threefold between 1980 and 2000 because of increasing numbers of patients with diabetes mellitus, hypertension, and related conditions. Although this increase has leveled off, the prevalence of ESRD has steadily increased, largely because of longer patient survival. By 2018, there were more than 750,000 individuals with ESRD in the United States.
The disease is costly, accounting for approximately 10% of Medicare fee-for-service spending.
It is also associated with high mortality; fewer than one-half of those who initiate hemodialysis survive for five years.5 Primary care clinicians play a key role in diagnosing chronic kidney disease, monitoring its progression, treating modifiable risk factors, and identifying and treating complications. The evaluation of chronic kidney disease was discussed in a previous issue of American Family Physician (AFP).6 ESRD often develops slowly and can be prevented in many cases. This article provides an overview of the medical management of ESRD, as well as its comorbidities and complications. inxeba the wound full movie download mp4 Early nephrology referral for patients at increased risk of ESRD is vital because it is associated with improved patient-centered outcomes, including mortality.3,7 Approximately one-third of all patients receive little to no nephrology care before ESRD is diagnosed.5,8 Patients with chronic kidney disease should be referred to nephrology if their estimated GFR falls below 30 mL per minute per 1.73 m2.3 A full list of indications for referral is provided in Table 1.3 Goals of early referral include initiating disease-specific therapies; slowing the progression of chronic kidney disease; evaluating and treating comorbid conditions and complications; providing psychosocial support; and planning for kidney transplantation, dialysis, or conservative kidney management.3 Multidisciplinary care, involving primary care and other clinicians, pharmacists, nurses, dietitians, and social workers, may improve patient outcomes.9 A key consideration for patients with ESRD is establishing eligibility for kidney transplantation, which, compared with dialysis or conservative management, improves survival and quality of life.10 Referral to a transplantation program is advised when estimated GFR falls below 30 mL per minute per 1.73 m2 because receiving a transplant before dialysis is needed improves survival.11 Early referral allows time for medical and psychosocial evaluation, treatment of modifiable risk factors, and identification of a living donor; it also maximizes accrual of wait time on the transplant waiting list.10 The median wait time for a transplant is four years, and currently only 5% of patients who initiate dialysis were preemptively placed on the kidney transplant waiting list.5 Most patients elect to receive dialysis to treat their ESRD,5 and these patients tend to live longer than those choosing conservative management.12 Yet, because of the time commitment, discomfort, and complications associated with dialysis, shared decision-making should be used, with adequate time for patients to consider the various dialysis modalities and the option of conservative management.3 Many patients do not receive adequate education before starting dialysis, and one survey showed that 61% of patients who chose dialysis later regretted the decision.8 Page 2 Breast implants are used for cosmetic and reconstructive purposes. Implant placement for primary breast augmentation is the most common cosmetic surgical procedure in the United States, with more than 313,000 procedures performed in 2018.1 Breast implants also play an important role in reconstructive procedures for breast hypoplasia,2 congenital breast anomalies,3 male-to-female top surgery,4 and postmastectomy breast reconstruction. Rates of breast reconstruction after mastectomy have increased since the passage of the Women's Health and Cancer Rights Act in 1998, which mandates insurance coverage for all stages of postmastectomy reconstruction.5 It also includes coverage of symmetry procedures for the contralateral breast in the case of a unilateral mastectomy.5 Implant-based breast reconstruction is more common than tissue-based (autologous) reconstruction, which commonly uses abdominal tissue for breast reconstruction, for patients who have undergone mastectomy.6 Operative techniques for breast implant placement can have important implications when assessing and examining patients. Notably, implants can be placed above the pectoralis major muscle, where they are more easily palpable, or below the pectoralis major muscle, where features such as implant rupture may be more difficult to discern on examination. Postmastectomy reconstruction improves patient-reported outcomes in psychosocial well-being, sexual well-being, and overall chest satisfaction.7 WHAT'S NEW ON THIS TOPICBreast ImplantsIn September 2020, the U.S. Food and Drug Administration released new guidance about labeling of breast implants to improve risk communication:A boxed warning denotes risks such as breast implant–associated anaplastic large cell lymphoma and potential need for additional operationsA patient decision checklist should be provided to document discussion of alternatives to breast implants, risks of breast implant surgery, breast implant–associated anaplastic large cell lymphoma, systemic symptoms, and considerations for a successful breast implant candidateChemical materials contained in implants should be describedSilicone rupture screening guidelinesAll patients should be given an implant device card What Are the Key Characteristics of Breast Implants? Several variables relating to the breast implant and operative technique can affect the outcome of a cosmetic or reconstructive procedure. These variables (Table 1) include the location of the operative incision, implant fill type (silicone vs. saline), and surface texture (smooth vs. alien isolation ps4 trophy guide textured). Decisions regarding implant characteristics are based on patient preference and surgeon experience. Operative decisions, including incision type and whether the implant is placed above (prepectoral pocket) or below the pectoralis muscle (submuscular pocket; Figure 1), are dependent on the indication for the procedure, anatomy, surgeon, and patient preference. A recent meta-analysis demonstrated that for breast augmentation, the periareolar approach—although cosmetically favorable—is associated with higher rates of capsular contracture, defined as thickening and hardening of scar tissue around the implant, than transaxillary or inframammary incisions.8 Silicone implants are more commonly used than saline in augmentation and postmastectomy reconstruction.9 Implants with a textured outer shell (referred to as textured implants) became popular secondary to reduced rates of capsular contracture compared with those with a smooth outer shell; however, they are currently not in use because of association with breast implant–associated anaplastic large cell lymphoma (ALCL).10 What Are the Acute Complications Associated with Breast Implants? Most acute complications following breast augmentation or implant-based reconstruction are managed immediately by the surgical team (e.g., hematoma), but some may arise outside of the immediate perioperative period and present to the family physician. The most acute and time-sensitive complications include hematomas and an implant or tissue expander infection. Rates of acute infection range from 1% to 2.5% for cosmetic procedures.11 Risk factors for infection in patients with breast implants include obesity, diabetes mellitus, smoking, mastectomy skin-flap necrosis, lymph node dissection, and radiation therapy.12 Acute infections generally present within the first four weeks after breast implant or tissue expander placement with unilateral breast pain, redness, swelling, and warmth. Constitutional symptoms may also be present. Infection severity can range from superficial cellulitis to abscess formation and sepsis. aigle gummistøvler størrelsesguide voksne The most common source of infection is from gram-positive bacteria.11 Management of superficial infections may be initiated by the primary care physician with oral antibiotics; the plastic surgeon should be contacted for discussion and follow-up evaluation. More severe infection warrants admission for intravenous antibiotics and, in some cases, surgical washout with removal of the expander or implant. Prompt referral to the operating surgeon for management of antibiotics and possible implant removal is recommended for patients. The rate of implant salvage for infected breast implants used for reconstructive purposes is approximately 58%,13 and for augmentation it approaches 90% with medical management and/or washout in the operating room.14,15 Page 3 How effective are pharmacologic and nonpharmacologic acute treatments for episodic migraine in adults? Nonsteroidal anti-inflammatory drugs (NSAIDs) and triptans, individually and combined, are superior compared with placebo in resolving episodic migraine pain and are first-line choices for acute treatment.



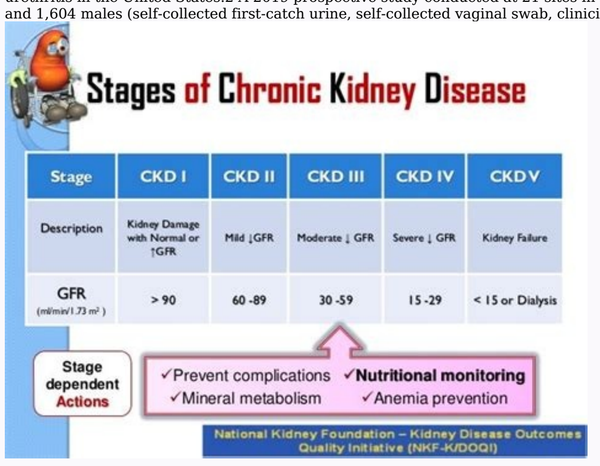

(Strength of Recommendation [SOR]: A, based on consistent, good-quality patient-oriented evidence.) Acetaminophen and dihydroergotamine also relieve migraine pain better than placebo. 5730892939.pdf (SOR: A, based on consistent, good-quality patient-oriented evidence.) Calcitonin gene-related peptide antagonists and lasmiditan improve pain and function in acute migraines compared with placebo. (SOR: A, based on consistent, good-quality patient-oriented evidence.) Opioids do not improve pain or function, and adverse events are greater, compared with established migraine treatment options. (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.) Acupuncture does not relieve migraine pain compared with sham acupuncture, but noninvasive vagus nerve stimulation and remote electrical neuromodulation relieve acute migraine pain compared with sham stimulation.1 (SOR: B, based on inconsistent or limited-quality patient-oriented evidence.) Migraine headaches are one of the most common acute medical problems.2 More than one in six adults in the United States reported having a migraine or severe headache in the past three months, and in one-half of those people, it caused severe impairment such as missing work or school.3 Episodic migraines are defined as headaches with at least two of the following: unilateral location, pulsating quality, moderate to severe pain intensity, and aggravated by or causes avoidance of routine physical activity. Episodic migraines also must be associated with nausea or photophobia and phonophobia and last four to 72 hours when untreated.4 The Agency for Healthcare Research and Quality (AHRQ) review assessed the effectiveness of pharmacologic and nonpharmacologic options for the acute treatment of episodic migraine. The review included 15 existing systematic reviews of NSAIDs and triptans and 141 studies (n = 37,653) of other migraine treatments in the outpatient or emergency department setting.1,5 The AHRQ review concludes that NSAIDs and triptans are first-line treatments of acute migraines. Four systematic reviews (n = 10,272) comparing NSAIDs with various interventions, including placebo and triptans, found that NSAIDs lead to pain relief and resolution at all time points with a number needed to treat (NNT) of less than 10 in all studies for two-hour migraine pain relief and 24-hour sustained pain relief. intentional talk math pdf Triptans improved pain and function at two and 24 hours compared with placebo in nine systematic reviews (n = 101,276) with an NNT of less than 10 in all studies. Higher doses of triptans were significantly more effective; 100 mg of sumatriptan was significantly more effective at 24-hour pain relief than a 50-mg dose (NNT = 4.5). However, an increase in doses of triptans was also associated with an increase in harms compared with placebo (e.g., sumatriptan, 100 mg [number needed to harm (NNH) = 5.2], 50 mg [NNH = 13], and 25 mg [NNH = not statistically significant]). Adverse events included nausea, dizziness, paresthesias, somnolence, and chest discomfort. Earlier treatment during the mild phase of the migraine appeared to be more effective, although none of the studies were intentionally designed to evaluate timing of administration.6 Two systematic reviews found that combining a triptan and an NSAID is effective and well tolerated, leading to relief of moderate to severe headaches at two hours compared with placebo (NNT = 3.2; NNH = 11). The most commonly reported adverse events were dizziness, nausea, dyspepsia, paresthesia, somnolence, dry mouth, and chest discomfort.1,7 The AHRQ review confirms that opioids should not be used in the acute treatment of migraines. Most of the studies that included opioids found them to be less effective and associated with more adverse events compared with other medications or placebo in the treatment of episodic migraine.1 Physicians should avoid opioids for the acute treatment of migraine in all settings if possible. This is consistent with the Choosing Wisely recommendation from the American Headache Society.8 Page 4 Should allele testing be done before prescribing allopurinol to prevent severe cutaneous adverse reactions (SCARs) such as Stevens-Johnson syndrome, toxic epidermal necrolysis, and drug reaction with eosinophilia and systemic symptoms? Moderate evidence supports allele testing for HLA-B*58:01 before initiating allopurinol to decrease the incidence of SCARs in higher risk populations. (Strength of Recommendation [SOR]: B, based on systematic review and meta-analysis of population-controlled studies, prospective cohort studies.) Patient populations who are not at increased risk should not be screened. mekifaviwodomusafe.pdf (SOR: C, based on consensus recommendation.) A 2015 nonrandomized prospective cohort study (n = 2,926) evaluated the use of prospective genotyping for HLA-B*58:01 before initiation of allopurinol to prevent SCARs, including Stevens-Johnson syndrome, toxic epidermal necrolysis, drug reaction with eosinophilia and systemic symptoms, and others.1 Historical incidence was used for the control group. The study included 15 medical centers in various regions across Taiwan from July 2009 to August 2014. Exclusion criteria included individuals who had a history of allopurinol-induced hypersensitivity, had a history of bone marrow transplant, or were not of self-described Han Chinese descent. HLAB*58:01 genotyping with real-time polymerase chain reaction was performed before starting treatment with allopurinol for all patients, and all patients were counseled on SCARs, with HLA-B*58:01-positive patients (n = 571) being recommended alternative treatments and non-carriers (n = 2,339) being started on allopurinol. The mean estimated historical incidence of allopurinol-induced SCARs in the control group from 2001 to 2004 was 0.30% per year (95% CI, 0.28% to 0.31%). This range of years was used to prevent confounding with early adopters of pretreatment genotyping. This study had a sufficient number of patients for a power of 86% to detect a reduction of allopurinol-induced SCARs from 0.30% per year to 0.03%. None of the study participants were diagnosed with SCARs, a significant difference (two-tailed P; P = .0026) compared with historical incidence, which predicted seven occurrences of SCARs. A 2018 nonrandomized prospective study of 542 patients from 10 Korean hospitals evaluated the usefulness of screening for the HLAB*58:01 allele to identify at-risk individuals for allopurinol-induced SCARs.2 The patients had chronic renal insufficiency, defined as a glomerular filtration rate of less than 60 mL per minute for at least three months, with concurrent hyperuricemia, and each was genotyped for the HLA-B*58:01 allele. advertising agency agreement pdf Of the enrolled patients, 503 were negative and treated with allopurinol at appropriate renal dosing, and 39 were HLA-B*58:01 allele positive and were treated with the alternative medication, febuxostat (Uloric), at appropriate renal dosing. The enrolled patients were compared in a retrospective manner with the historical incidence of SCARs in 4,002 matched patients from the same hospitals. bts world apk uptodown Patients were followed biweekly for 90 days using phone surveys. Patients who withdrew consent or stopped allopurinol therapy were excluded from the analysis. A two-sided, one-sample binomial test was used to compare the prospective study and the historical control data with two-tailed P values. One of the 39 HLA-B*58: 01 allele-positive and 52 of the negative patients withdrew consent or were lost to follow-up. None of the participants in this study developed SCARs, and 38 cases of SCARs were identified in the historical control patients (0% vs.
0.95%; P = .029). A 2011 systematic review and meta-analysis included six studies for analysis—three case-control studies, two case-population studies, and one retrospective cohort study.3 The primary outcome of this analysis was the carrier frequency of HLA-B*58:01 in allopurinol-induced cases of Stevens-Johnson syndrome and toxic epidermal necrolysis compared with each control group. Studies included patients self-identified as Han Chinese, Thai, Japanese, Korean, and mixed European populations, including patients self-described as South American, African, Asian, and European. Four studies were included in a pooled quantitative analysis—total HLA-B*58:01 carriers were 54 of 55 among case patients and 74 of 678 among the control patients. The pooled odds ratio for allele carriers developing Stevens-Johnson syndrome or toxic epidermal necrolysis was 96.6 (95% CI, 24.5 to 381.0). Five studies were included in a separate analysis that compared patients with the HLA-B*58:01 genotype and allopurinol-induced cases of Stevens-Johnson syndrome and toxic epidermal necrolysis with the general population. HLA-B*58:01 carrier frequency was 72.5% (50 of 69) for case patients and 5% (171 of 3,378) for population control patients. This group of studies had a pooled odds ratio of 79.3 (95% CI, 41.5 to 151.4). A subgroup analysis of populations of both allele-positive self-described Asian and self-described non-Asian cohorts revealed a statistically significant association between allopurinol-induced Stevens-Johnson syndrome and toxic epidermal necrolysis for both cohorts, with an odds ratio of 74.2 (95% CI, 27.0 to 204.1) and 101.5 (95% CI, 45.0 to 228.8), respectively, indicating a broader utility to allele testing to prevent SCARs in HLAB*58:01 carriers. Page 5 A 49-year-old Black man with a history of hypertension, type 2 diabetes mellitus, and class I obesity (body mass index of 31.4 kg per m2) presents for a wellness examination. The patient's hypertension and diabetes are well controlled with lisinopril and metformin; they do not take any other medications.

**Table 1. Stages of chronic kidney disease.**

| Stage | Description | eGFR (mL/min) | Potential complications of reduced GFR (in alphabetical order) |
|---|---|---|---|
| 1 | Kidney damage with normal or ↑ GFR | ≥90 | • Anemia, including functional iron deficiency<br>• Blood pressure increases<br>• Calcium absorption decreases<br>• Dyslipidemia /heart failure/volume overload<br>• Hyperkalemia<br>• Hyperparathyroidism<br>• Hyperphosphatemia<br>• Left ventricular hypertrophy<br>• Metabolic acidosis<br>• Malnutrition potential (late) |
| 2 | Kidney damage with mild ↓ GFR | 60–89 | |
| 3 | Moderate ↓ GFR | 30–59 | |
| 4 | Severe ↓ GFR | 15–29 | |
| 5 | Kidney failure | <15 or dialysis | |

Source: Adapted from Identification, Evaluation and Management of Chronic Kidney Disease (www.health.gov.bc.ca/ppac/pdf/ckd.pdf)

The patient feels well today, with no health complaints and a negative review of systems. The patient tells you that they recently read an online article about vitamin D and is concerned they might have a low vitamin D level. 1. According to the U.S. Preventive Services Task Force (USPSTF) recommendation statement, how should you address this patient's concerns? A. Discuss with the patient that it is unclear whether they should be screened because the evidence is insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency in asymptomatic adults.B. The patient should be screened for vitamin D deficiency because screening is indicated in male patients.C. The patient should not be screened for vitamin D deficiency because their age stratifies them in the low-risk category for vitamin D deficiency.D. The patient should be screened for vitamin D deficiency because screening is recommended due to the high prevalence of vitamin D deficiency in the United States.E. The patient should not be screened for vitamin D deficiency because there is a high risk of serious harms from treatment of vitamin D deficiency. megitotedijalobagiratu.pdf 2. Which of the following statements about vitamin D deficiency are correct? A. Vitamin D deficiency is defined as a serum level of 25-hydroxyvitamin D (25[OH]D) less than 20 ng per mL (50 nmol per L).B. Serum 25(OH)D is currently considered the best marker of vitamin D status.C. Laboratories are reliably well standardized in their testing methods.D. Vitamin D requirements may vary by individual. 3. According to the USPSTF, which one of the following statements about risk factors for a low vitamin D level is correct? A.
People who have a body mass index of less than 25 kg per m2 are at higher risk for low vitamin D levels than people who are obese.B. Frequent sun exposure is paradoxically associated with a higher risk of low vitamin D levels.C. Younger people have a higher risk of low vitamin D levels than older people.D. Black people have a higher prevalence of low vitamin D levels than White people.E. Known risk factors account for almost all of the variability in 25(OH)D levels among individuals. The correct answer is A. The evidence is insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency in asymptomatic adults without conditions for which vitamin D treatment is recommended. This recommendation applies to all adults, regardless of age, and the recommendation does not differ based on the patient's sex. Although data from a national survey estimated that 18% of people in the United States may have low vitamin D levels, evidence of the benefits of identifying and treating asymptomatic individuals is not well established.1 The USPSTF found adequate evidence that the harms of treating vitamin D deficiency are small to none.1 The correct answers are B and D. Vitamin D requirements may vary by individual; thus, no one serum vitamin D level cutoff point defines deficiency, and no consensus exists regarding the precise serum levels of vitamin D that represent optimal health or sufficiency.
Additionally, evidence suggests that results vary by testing method and between laboratories using the same testing methods. Despite these variations, total serum 25(OH)D is considered the best marker of vitamin D status.1,2 The correct answer is D. Black people have a higher prevalence of low vitamin D levels than White people, although the clinical significance of this risk is uncertain.1 Low sun exposure and obesity are risk factors for low vitamin D levels; risk is not known to be increased for individuals with a body mass index in the normal range. Older people are at higher risk of low vitamin D levels compared with younger people. Importantly, much of the variation in vitamin D levels among individuals is not accounted for by known risk factors; the reason for this variation remains uncertain.1,2 Page 6 The Aptima Mycoplasma genitalium assay is a nucleic acid amplification test (NAAT) for the detection of ribosomal RNA from M. genitalium. It is used to detect this common bacterial cause of sexually transmitted infections (STIs) in men and women using first-void urine or vaginal, endocervical, penile-meatal, or urethral swabs.1 The assay was approved by the U.S. Food and Drug Administration in 2019 and is the only NAAT approved for M. genitalium infection. M. genitalium is estimated to cause 15% to 25% of nongonococcal urethritis and is a common cause of recurrent urethritis in the United States.2 A 2019 prospective study conducted at 21 sites in the United States compared the Aptima M. genitalium assay with a composite reference of three transcription-mediated NAATs targeting unique regions of M. genitalium 16S or 23S ribosomal RNA.3 Seven different specimen types were analyzed from 1,789 females and 1,604 males (self-collected first-catch urine, self-collected vaginal swab, clinician-collected vaginal swab, and clinician-collected endocervical swab for females; self-collected penile-meatal swab, clinician-collected urethral swab, and self-collected first-catch urine for males).




Overall prevalence of M. genitalium infection was 12.0% and 8.8% among symptomatic and asymptomatic participants, respectively. 3 The sensitivity of the assay was 90% or greater for clinician- and patient-collected vaginal and male urethral swab specimens and male urine specimens, 88.4% for penile-meatal specimens, 81.5% for endocervical specimens, and 77.8% for female urine specimens. Specificity was 97.8% or higher for all specimen types. Sensitivity and specificity were similar in asymptomatic and symptomatic participants.3 The Aptima M. genitalium assay package insert notes that for female patients, a vaginal swab is the preferred specimen type because of higher sensitivity; however, alternative specimens may be used when a vaginal swab is unavailable.4 In a separate study, a composite reference standard comprising three other transcription-mediated amplification tests was used to evaluate the performance of the Aptima M. genitalium assay on vaginal swab, female urine, and male urine specimens from 1,400 adults at three sites in the United States.5 The sensitivity, specificity, and overall agreement of the assay were 100%, 99.9%, and 99.9%, respectively.5 A 2017 prospective study including 1,431 clinical specimens from 1,235 symptomatic and asymptomatic patients evaluated the performance of the assay compared with in-house real-time polymerase chain reaction testing.6 The sensitivity of the assay was significantly higher than the polymerase chain reaction test (100% vs. 59.7%), and its specificity was 99.1%.6 The Aptima M. genitalium assay offers accurate detection of this increasingly common STI. Samples can be easily collected in a clinical setting, and patients can also be taught to self-collect samples. Prior detection of Mycoplasma using traditional microbiological methods was difficult and would take up to six months to culture.7 The 2021 Centers for Disease Control and Prevention treatment guidelines for STIs recommend using NAAT testing in men with recurrent or persistent nongonococcal urethritis and in women with recurrent cervicitis and considering testing in women with pelvic inflammatory disease.8 Screening asymptomatic men or women for M. genitalium infection and extragenital testing are not recommended.8 Testing for M.
genitalium resistance to macrolide or quinolone is currently under investigation and not commercially available in the United States. Although more rapid detection may facilitate timely antibiotic treatment, no studies have demonstrated improved patient outcomes from the use of this test. The lower sensitivity of female urine and endocervical specimens may lead to false-negative test results and delayed treatment. Therefore, repeat testing of a vaginal sample may be indicated, leading to increased costs. The 2021 Centers for Medicare and Medicaid Services Clinical Laboratory Fee Schedule reimburses $35 for the detection of M. genitalium by DNA or RNA probe.9 Additional costs may be decreased if testing facilitates diagnosis and appropriate antimicrobial treatment, whereas additional costs may be increased if the test is used indiscriminately in low-risk populations. No studies have evaluated the cost-effectiveness of routinely testing asymptomatic men or women with risk factors for M. genitalium infection. essentials of earned value management pdf Page 7 Adverse effects associated with tirbanibulin include vesiculation/pustulation (mild: 7%, moderate: less than 1%, severe: less than 1%) and erosion/ulceration (mild: 9%, moderate: 3%, severe: 0%) localized to the treated area of skin. These symptoms have been shown to resolve with discontinuation of therapy.1 There are no data on the use of tirbanibulin in pregnant patients or its effects on breastfed infants, milk production, or levels of tirbanibulin in breast milk.1 Animal studies indicate there are no adverse effects on offspring. The most common adverse effects of tirbanibulin are localized skin reactions at the site of application. These reactions range from mild to severe and consist of erythema, flaking or scaling, crusting, and swelling.1 Overall, 91% of patients treated with tirbanibulin reported erythema and 82% reported flaking and scaling.2 Patients treated with tirbanibulin also reported pain (10%) and pruritus (9%) at the application site.2 The use of corticosteroids to minimize the inflammatory reaction caused by tirbanibulin has not been studied.

Table 1. Problems seen in patients with reduced kidney function

| Healthy kidney | Potential complication in CKD | Approximate frequency in cats with IRIS Stage 2, 3 or 4 disease* |
|---|---|---|
| Excretion of protein breakdown products including urea and creatinine | Azotaemia, clinical signs of uraemia | 99% |
| Excretion of drugs, toxins and hormones | Accumulation of drugs and toxins can cause adverse effects; accumulation of gastrin (the hormone which regulates gastric acidity) can cause gastritis and gastric ulceration | |
| Regulation of acid–base status | Metabolic acidosis | 64% |
| Regulation of normal hydration status | Dehydration | 67% |
| Regulation of normal electrolyte status | Hyperphosphataemia and hypokalaemia are the most common electrolyte disturbances | 60–65% have hyperphosphataemia<br><br>20–25% have hypokalaemia |
| Regulation of normal systemic blood pressure | Systemic hypertension | 20% |
| Production and activation of various hormones including rennin, erythropoietin, vitamin D (calcitriol) | Reduced erythropoietin can contribute to causing anaemia. Reduced production of calcitriol is a contributory factor to development of renal secondary hyperparathyroidism | 84% have renal hyperparathyroidism |

* DiBartola et al, 1987; Lulich et al, 1992, Barber and Elliott, 1998, Syme et al, 2002

Two premarketing randomized placebo-controlled trials of 353 patients with AK who were treated with tirbanibulin demonstrated a statistically significant clearance rate of 44% in trial 1 and 54% in trial 2 for areas of skin smaller than 25 cm2 (i.e., about the size of a baseball). Most of the participants were White men 70 years or older with Fitzpatrick skin types I and II. The estimated recurrence rate in those with complete response to tirbanibulin was 47%.2 Although not directly compared, the clearance rates with tirbanibulin are lower than the 70% to 75% clearance rates of fluorouracil, imiquimod (Aldara), and ingenol mebutate (Picato).3 Treatment of areas larger than 25 cm2 has not been studied with tirbanibulin but has been studied for the other AK medications.3 Currently, no clinical trials compare tirbanibulin with other AK treatments.2 A five-day course of tirbanibulin (five single-dose packets) costs about $1,000. This is comparable to ingenol mebutate, which costs about $1,100, but it is substantially more expensive than imiquimod and fluorouracil, which are approximately $30 to $80. Tirbanibulin 1% ointment is applied daily for five days to the entire scalp or face area up to 25 cm2 where lesions are visible.
Occlusive bandaging should not be applied over the application area.
Patients using tirbanibulin should avoid contact with their eyes, in the periocular area, or in or near the mouth and lips due to risk of irritation.
Tirbanibulin should not be used on broken or unhealed skin. The cost and effectiveness profile of tirbanibulin make it a last-line option compared with current first-line therapies such as fluorouracil and imiquimod, which are less expensive and have a higher clearance rate of AK lesions.3 Further trials comparing the effectiveness of tirbanibulin and other AK medications are needed.


Page 8 A 34-year-old man presented with a crusted papule on the left ear that had grown slowly over several years. He did not recall any trauma to the area. The lesion was painful, but the patient did not report bleeding or discharge.
His medical history included cleft palate repair and gastroesophageal reflux. On physical examination, a small (less than 1 cm) crusted papule was noted on the left antihelix (Figure 1).
The lesion had an erythematous base and was tender to palpation. Based on the patient's history and physical examination findings, which one of the following is the most likely diagnosis? A. Basal cell carcinoma.B. Chondrodermatitis nodularis helicis.C. Gouty tophus.D. Squamous cell carcinoma.E. Weathering nodule.
The answer is C: gouty tophus. 14456449997.pdf A tophus is a deposit of monosodium urate crystals due to hyperuricemia and is pathognomonic for gout.
Uric acid tophi may present as hard deposits underneath the skin in and around joints, in the olecranon bursa, or on the pinnae.
They may also break through the skin, appearing as chalky white nodules. The diagnosis can be confirmed by aspiration or biopsy of the nodule, which can show needle-shaped, negatively birefringent uric acid crystals under polarized light.1 Removal is not required for small tophi that are not painful and do not affect movement or range of motion.
They may shrink over time following appropriate lifestyle changes and diet modification. Medications, including nonsteroidal anti-inflammatory drugs, corticosteroids, and xanthine oxidase inhibitors, can be used prophylactically for gouty tophi. Larger tophi that may affect movement and range of motion should be surgically removed and the joint replaced if indicated.1 Basal cell carcinoma, the most common type of human malignancy, usually occurs on the head and neck. It can present as an enlarging crusted nodule, pearly papule, reddish-pink patch, ulceration, or scar-like area. It usually grows slowly over years, and metastasis is rare.2 Chondrodermatitis nodularis helices is a benign, painful condition that affects the helix or antihelix of the ear.
The pathophysiology is unknown but is believed to involve prolonged and excessive pressure on the affected area.3 Squamous cell carcinoma is the second most common skin cancer, with a male to female ratio of 2:1. The incidence increases with age. Lesions are typically nonhealing, bleeding hyperkeratotic nodules or ulcerated plaques, although presentation can vary. The surrounding skin is inflamed and indurated.4 Basal cell and squamous cell carcinomas can be difficult to differentiate clinically without biopsy. Dermoscopy is also useful.
Weathering nodules may be found in the helix and antihelix of the ear. They are most common in older White men and are usually bilateral and occur in multiples. Biopsy shows cartilage with elastic tissue degeneration and a marked absence of inflammatory cells. Weathering nodules may coexist with chondrodermatitis nodularis helices.5 Page 9
Following an uncomplicated pregnancy and full-term, spontaneous vaginal delivery, a yellowish linear plaque was noted on the cheek of the newborn (Figure 1). 45261707598.pdf
Laboratory test results were normal, and there was no family history of congenital skin conditions. Based on the patient's history and physical examination findings, which one of the following is the most likely diagnosis? A. Aplasia cutis congenita.B. Comedo nevus.C. Neonatal herpes simplex.D. Sebaceous nevus.E. Seborrheic dermatitis. The answer is D: sebaceous nevus. Also referred to as an organoid nevus, this congenital malformation is most commonly found on the scalp and face but may also occur on the forehead and neck. It typically presents as a solitary asymptomatic, yellow, well-circumscribed, smooth or plaque-like hamartoma. It is typically oval or in a linear pattern. When located on the scalp, it may cause localized alopecia. Because of maternal hormones, a sebaceous nevus appears more prominent immediately after birth. As the child ages, the lesion thickens and may appear verrucous. Hormonal changes at puberty also make the lesion appear more prominent.1,2 If the diagnosis of sebaceous nevus is unclear, a biopsy may be performed. After puberty, there is a risk of progression to basal cell carcinoma, apocrine carcinoma, or squamous cell carcinoma. Prophylactic excision is usually recommended in late childhood. Patients may have sebaceous nevus syndrome, characterized by a primary lesion and associated cerebral, skeletal, and ocular defects.1,2 Aplasia cutis congenita is a rare congenital disorder that typically affects the vertex of the scalp. It presents as a full absence of skin and possibly underlying structures, such as bone and dura mater.3 A comedo nevus presents as groupings of black, keratinous plugs on the face, neck, upper arms, chest, or abdomen. The lesions predominately occur neonatally but can develop in childhood.4 Neonatal herpes simplex appears as vesicular pustules with surrounding erythema. The vesicles can be found anywhere on the body, most commonly the face, eyes, and mouth. They are usually scattered and may have erosion or crusting.5 In newborns, seborrheic dermatitis (cradle cap) typically presents as yellow, greasy scales on the scalp (cradle cap) or flexures with a “stuck on” appearance.6 Page 10 I have a patient, K.B., with a three-year history of asthma. The patient's parent is concerned because K.B. wakes every night coughing. The family just moved to an apartment that does not have air conditioning and has received several code violations for a leaking roof and windows. chandamama story book in telugu pdf
The apartment is located next to two major interstate highways and is 10 miles from a cement factory. Air quality has reached the orange zone several times this month, and pollen levels have been consistently high for several months. I have provided the parent with an Asthma Action Plan and updated K.B.'s medications according to current guidelines. I believe that the environmental factors exacerbate or even cause my patient's condition, so how do I talk with the family about these issues over which they have little or no control?
How do I talk with a patient about issues such as air pollution or climate change and their impacts on health? This case provides an example of how the environment can have significant impacts on the health of our patients. buseses.pdf It also illustrates the complex interaction of local, regional, and global environmental harms. The wide scope of environmental threats to human health presents challenges in managing patients who are increasingly affected by climate-related changes, including severe weather events, extreme heat, worsening air quality, increasing allergens, changes in vector ecology, water quality, food and water supply, and environmental degradation.1 The effects of climate change on individual and entire population health are well established.2,3 Many of these effects, especially those related to disruption of infrastructure, heat, and air pollution, are regional.4 Health harms disproportionately affect children, pregnant people, older adults, and those with limited resources and/or populations who are marginalized who have been disproportionately exposed to unhealthy environments due to a history of discriminatory policies. When wondering whether and how these health impacts should be discussed with a patient, physicians should be knowledgeable about the daily life and circumstances of the patient and trust that patients recognize their family physicians as credible sources of information and support. manual de hidraulica azevedo pdf GENERAL CONSIDERATIONS BEFORE INITIATING DISCUSSIONS Although only limited evidence is available to guide clinicians on broaching discussions about climate change with patients, it can be helpful to remember that health care professionals, including physicians and nurses, have powerful voices and are among the most trusted individuals according to populations surveyed in the United States.5,6 Physicians also have an ethical obligation to discuss climate concerns with their patients7 because climate change has been determined as a health emergency and is identified as the greatest public health threat of our century.8,9 Finally, physicians hesitant to provide advice about environment and health should take solace from data showing that more than three-fourths of the U.S. adult population would support climate solutions if they benefited personal or public health.10,11 A patient-centered approach to such discussions addresses patients' specific health concerns while exploring their receptivity to a larger, climate-informed treatment plan. Table 1 suggests approaches to common physician concerns about conducting climate change conversations in the office setting.1,3,12–17 MAKING RELEVANT HEALTH RECOMMENDATIONS A useful starting point for health care professionals wanting to familiarize themselves with key components of successful climate health messaging is found in ecoAmerica's communication guide.18 The guide provides specific examples of language to use when discussing the health impacts of fossil fuel–driven pollution and climate change. It recommends using positive and locally focused phrasing (“protect our families” rather than “stop climate change”) and offers key talking points, such as, “I'm a health professional because I care about the health of everyone in our community.”18 Page 11 Key Points for Practice• In patients 12 years and older with mild, persistent asthma, intermittent low-dose ICS and as-needed inhaled SABAs should be used as rescue therapy instead of daily controller therapy.• In patients four years and older with moderate to severe asthma, ICS/formoterol therapy should be considered as a daily controller and rescue therapy, a SMART strategy.• Adding an inhaled LABA to an ICS in uncontrolled asthma is preferred over adding a LAMA because of increased hospitalizations associated with LAMA therapy.• Subcutaneous immunotherapy can reduce the severity of mild or moderate asthma over time in patients with proven allergies.From the AFP Editors The National Heart, Lung, and Blood Institute (NHLBI) published asthma management guidelines in 1991 and 2007. In 2020, the NHLBI released an update focusing on six priority topics. Intermittent ICS Rescue Therapy Intermittent use of inhaled corticosteroids (ICS) is an option for mild persistent asthma. In patients 12 years and older with mild persistent asthma, using both an ICS and a short-acting beta-agonist (SABA) as rescue therapy is equivalent to daily ICS controller therapy with SABA rescue therapy. In children younger than 12 years, the benefit of rescue ICS therapy is uncertain. par quoi remplacer la mascarpone dans un glacage As-needed ICS therapy is also beneficial in other situations. In children up to four years of age who only experience wheezing with respiratory infections, a seven- to 10-day course of ICS daily at the start of a respiratory infection reduces exacerbations and systemic corticosteroid use. The effects of short-term ICS use on growth are uncertain, but they are likely less than systemic corticosteroids. In patients four years and older with moderate to severe persistent asthma, a single inhaler can be used as rescue therapy. In single maintenance and reliever therapy (SMART), a combination of an ICS and the long-acting beta-agonist (LABA) formoterol can be used as a daily controller and a rescue inhaler to a maximum of eight puffs daily for children four to 11 years of age and 12 puffs daily for patients older than 12 years. SMART reduces asthma exacerbations and overall corticosteroid use compared with standard treatment. SMART using other LABA medications has not been studied.
Limited Indications for Long-Acting Muscarinic Antagonists In patients with uncontrolled asthma despite daily ICS therapy, adding a LABA is recommended instead of adding a long-acting muscarinic antagonist (LAMA).
Although effects on symptoms are similar, adding a LAMA is associated with increased hospitalizations, especially in one study of Black adults. Adding a LAMA to an ICS may be indicated for contraindications to or intolerance of LABA medications. Adding a LAMA to ICS/LABA therapy does not decrease the frequency of exacerbations or the use of systemic corticosteroids or rescue medications.
LAMA medications should be avoided in patients at risk of urinary retention and glaucoma. Immunotherapy Useful Adjunct for Mild to Moderate Asthma Subcutaneous immunotherapy (repeated subcutaneous injections for desensitization) is an option if skin testing or in vitro antigen-specific immunoglobulin E testing suggests that allergen exposure worsens asthma control. Subcutaneous immunotherapy is not recommended for patients with severe asthma because of increased anaphylaxis risk. lumorumukuto.pdf In patients with mild or moderate asthma, immunotherapy can have a disease-modifying effect, reducing asthma severity over time. Sublingual immunotherapy is approved for allergic rhinitis but not for asthma. Patients with asthma should not administer immunotherapy at home. Marginal Benefit from Multicomponent Allergen Mitigation Single-component allergen mitigation does not improve outcomes, but multicomponent interventions slightly reduce exacerbations and marginally improve quality of life, asthma control, and symptoms. mxr 126 flanger doubler manual These interventions can be expensive and difficult to perform or maintain. Integrated pest management of cockroaches and mice, mattress and pillow covers for dust mites, high-efficiency particulate air–filtered vacuums, and home mold mitigation are beneficial when combined. Although pet removal is expected to improve pet-related allergies, the few studies are inconclusive. Cleaning and integrated pest management interventions may transiently worsen asthma symptoms.
Because of the marginal benefits, patient burden, and costs, interventions should be considered for patients with symptoms related to identified indoor allergen exposure confirmed by allergy testing or clinical history. Fractional Exhalation of Nitric Oxide Testing Has Limited Benefit in Ruling Out Asthma Fractional exhalation of nitric oxide can be measured with pulmonary function testing to indicate bronchial eosinophilic inflammation.
Fractional exhalation of nitric oxide testing may be useful if an asthma diagnosis is uncertain. A level less than 20 parts per billion in children five to 12 years of age, or less than 25 parts per billion in patients older than 12 years, rules out asthma with 79% sensitivity. Fractional exhalation of nitric oxide levels may also be elevated with allergic rhinitis, atopy, smoking, and chronic lung conditions. Tracking fractional exhalation of nitric oxide levels does not improve outcomes or quality of life and should not be used to assess asthma control or predict future exacerbations. Avoid Bronchial Thermoplasty In bronchial thermoplasty, radiofrequency energy is delivered by a catheter to bronchi to limit airway constriction. Although thermoplasty is approved for severe persistent asthma, the moderate risks and uncertain long-term outcomes outweigh small benefits in asthma control. Page 12 Key Points for Practice• For people two years and older, vegetables and whole fruits represent one-half of a healthy diet.• Potentially allergenic foods should be introduced to infants at about six months of age with solid foods to reduce food allergies.• During pregnancy, there is no need to limit potentially allergenic foods without a known food allergy, although large fish, unpasteurized juices and dairy products, and alcohol should be avoided.• In older adults, high-protein diets can limit natural decreases in lean muscle mass and vitamin B12 deficiency caused by decreased absorption.From the AFP Editors More than one-half of U.S. adults have at least one diet-related chronic disease such as type 2 diabetes mellitus, cardiovascular disease, and some cancers. About three-fourths are overweight or obese.
Foods are consumed in patterns, and it is these dietary patterns that affect disease risk. Because surveys show minimal improvement in healthy eating over the past 10 years, simple guidance is needed in improving food and beverage choices. The U.S. Departments of Agriculture and Health and Human Services published updated guidelines for healthy eating across a person's lifespan. For people two years and older, healthy dietary patterns involve choosing nutrient-dense foods and beverages. Nutrient-dense foods provide vitamins, minerals, and other essential nutrients, and are lower in added sugar, saturated fat, and sodium (Table 1). At least one-half of food eaten should be fruits and vegetables, especially whole fruits and vegetables of a variety of colors. The core elements of the other half of food that should be eaten include grains, dairy, protein, and oils with lower saturated fat. At least one-half of grain servings should be whole grains.
Minimize alcohol use and consumption of foods with added sugar, saturated fat, and sodium. Serving sizes on labels can be used to determine appropriate single portions. These guidelines will be more difficult to follow for people with food insecurity, which is the limited or uncertain access to nutrient-dense foods that affects 10% of households. Most people, even those without limited access, exceed the recommended intake of refined grains, added sugars, sodium, and saturated fats. During the first four months of life, breast milk is the optimal sole form of nutrition. Infants fed breast milk as part or all of their diet should get a 400-IU supplement of vitamin D each day. An iron-fortified commercial infant formula is recommended when breast milk is unavailable. Formula should be prepared per the manufacturer's instructions. Between four and six months of age, infants can begin eating nutrient-dense foods prepared to reduce choking risk. Although dairy products such as yogurt and cheese can be introduced at this time, cow's milk is not a safe replacement for human milk or formula until 12 months of age. Foods high in added sugar or sodium should be limited. Honey and unpasteurized foods (e.g., juices, milk, yogurt, cheeses) are unsafe for infants to consume. Potentially allergenic foods such as peanuts, tree nuts, egg, soy, and shellfish should be introduced with other complementary foods at six months of age to reduce risk of allergy.
There is no evidence that delaying introduction of allergenic foods prevents food allergy, and introducing peanut-containing foods in the first year reduces the risk of developing an allergy. The same core nutrient-dense foods are recommended for children and adolescents as for adults, because childhood habits guide adult eating patterns. Modeling and supporting healthy dietary patterns during childhood is the best way for parents and caregivers to prevent chronic diseases during adolescence and adulthood. Age-based caloric needs (Table 2) are estimates that should be adjusted by the size and activity level of the child. In childhood, beverages are optimally limited to water, unsweetened reduced fat milk, and juices without added sugars. Cow's milk should be fat free or reduced fat, although lactose-free or soy milk is also acceptable. Sugar-sweetened beverages such as soda, sports drinks, and energy drinks should be avoided. The core dietary elements also guide the adult diet. Standard caloric recommendations (Table 2) can be adjusted by age, activity, and current weight. U.S. adults consistently overconsume added sugars, refined grains, saturated fats, and sodium. Adults should be encouraged to prepare household meals from fresh ingredients, minimizing intake of sugar-sweetened beverages, alcohol, and added sugars. Sandwiches and grain-based dishes such as spaghetti and meatballs are the major sources of saturated fat in the U.S. diet. Increasing dietary fiber intake is particularly important to prevent coronary heart disease. Intake of calcium and vitamin D is particularly important in adults up to 30 years of age because bone mass is actively increasing. Although caloric requirements increase during pregnancy and lactation (Table 3), many patients experience excessive weight gain during pregnancy. One-half of patients retain at least 10 lb (4.5 kg) of excess weight after pregnancy and one-fourth retain at least 20 lb (9.1 kg). Goal weight gain during pregnancy depends on starting weight (Table 4). Page 13 Study Population: Adults (older than 18 years) with a clinical diagnosis of trigger finger, ranging from uneven movement without triggering to a locked or fixed deformity using Quinnell grading criteria1,2 Efficacy End Points: Resolution of symptoms, continued moderate to severe symptoms, recurrence of symptoms 12 to 24 weeks after treatment; total active finger motion after treatment; residual pain after treatment; patient-reported treatment success Harm End Points: Adverse events 12 to 24 weeks after treatment (e.g., pain at the injection site) Narrative: Trigger finger is a common condition caused by abnormal movement of an inflamed, thickened, or swollen flexor tendon as it glides within its tendon sheath through the first annular pulley, which may also be narrow due to thickening.1,3 Trigger finger can lead to pain, catching, or locking of the affected digit. Management is typically conservative, including rest, immobilization, and oral and topical nonsteroidal anti-inflammatory drugs (NSAIDs).1,3 Corticosteroid injections are usually implemented when conservative management is not effective or function is impaired.1,3 Although effective, corticosteroid injections may cause unwanted adverse effects, such as fat atrophy and hypopigmentation of the skin and elevated blood glucose levels in patients with diabetes mellitus.4–6 An injectable NSAID at the level of the first annular pulley could avoid these adverse effects and may be more effective in treating trigger finger. The Cochrane review included two randomized controlled trials with 231 total patients (average age = 59 years; 60% female) from Singapore and Malaysia in outpatient settings. The trials compared NSAID injection (12.5-mg diclofenac or 15-mg ketorolac) with corticosteroid injection (5-mg or 20-mg triamcinolone acetonide). The systematic review and meta-analysis showed that NSAID injections offered little to no additional relief from trigger finger symptoms, with a trend toward persistent moderate to severe symptoms, compared with corticosteroid injections at 12 to 24 weeks. Although the data suggest that NSAID injections have a small benefit over corticosteroid injections for preventing recurrence of symptoms (relative risk reduction = 0.93; 95% CI, 0.62 to 0.99; absolute risk reduction = 20%; number needed to treat = 5), the certainty of the evidence is very low because of study bias and imprecision. The degree of benefit, if any, is uncertain. Trends suggested an improvement in active range of motion with corticosteroid injections; however, the findings were not clinically significant. No statistically significant findings showed that NSAID injections were superior to corticosteroid injections for the resolution of symptoms or residual pain, and NSAIDs did not improve patient-reported treatment success relative to corticosteroids. There were few adverse effects (e.g., pain at the injection site) reported in either group, and no statistical difference was noted.
Caveats: The Cochrane review had several limitations. Only two small studies met the criteria for inclusion, and the risk of bias was high in both studies because of incomplete outcome data, selection bias, and an unclear risk of performance bias in blinding personnel and participants. This made the certainty of evidence low to very low for all outcomes. There was further potential bias because two of the review authors also authored one of the included studies. Attempts to counter potential bias included arranging a third-party analysis of the risk of bias and an independent methodologist's review of critical steps. The two studies used doses of NSAIDs that were lower than typically used in injections for other musculoskeletal conditions.1 The same corticosteroid (triamcinolone) was used in both studies but at different doses, which could have affected comparisons and pooling of outcomes because a dose-response relationship has been shown in the six months following triamcinolone injections for the treatment of trigger finger.7
Both studies were conducted in orthopedic clinics, limiting their generalizability to family medicine. Page 14 In children with pneumonia who do not need hospitalization, is five days of treatment with high-dose amoxicillin comparable with 10 days of treatment? In a limited study, children with community-acquired pneumonia who were treated with five days of high-dose amoxicillin had cure rates comparable with those who were treated for 10 days. (Level of Evidence = 1b) The study took place before the COVID-19 pandemic in two emergency departments in Hamilton, Ontario, and enrolled children six months to 10 years of age with radiographically confirmed community-acquired pneumonia who were not sick enough to be hospitalized. The researchers randomized the children to receive five days of high-dose amoxicillin (75 mg per kg to 100 mg per kg per day) plus five days of placebo (n = 140) or 10 days of high-dose amoxicillin (n = 141).
The dose range was based on Canadian Paediatric Society guidelines that allow for slight dose variation to simplify medication administration and reduce potential dosing errors. After two to three weeks of follow-up, more children who received five days of treatment had a clinical cure (85.7%) than those who received 10 days of treatment (84.1%). The number of days lost in caregiving was lower among those treated for five days (two days vs. three days, respectively), and there was no difference in absenteeism among the children (one day for each group). Approximately 10% of children in each group were lost to follow-up. The study was designed as a noninferiority study and needed 135 participants in each group to be confident that the two interventions were comparable. Study design: Randomized controlled trial (nonblinded) Funding source: Foundation Setting: Inpatient (any location) Reference: Pernica JM, Harman S, KamAJ, et al. Short-course antimicrobial therapy for pediatric community-acquired pneumonia: the SAFER randomized clinical trial. JAMA Pediatr. 2021;175(5):475–482. Page 15 Do prophylactic antibiotics improve outcomes in adults with idiopathic pulmonary fibrosis (IPF)? The study found an increased number of adverse events without any significant benefit from antimicrobial therapy compared with usual care alone for adults with IPF.
The study was terminated earlier than planned because of futility and the possibility of significantly increased harm. (Level of Evidence = 1b) An increased lung bacterial load is associated with disease progression in adults with IPF.
The investigators randomized (concealed allocation assignment) 513 adults, 18 years or older, who met the standard diagnostic criteria for IPF to receive antimicrobial therapy (trimethoprim, 160 mg/sulfamethoxazole, 800 mg twice daily, plus folic acid, 5 mg daily, or doxycycline, 100 mg once or twice daily, depending on body weight) in addition to usual care or to usual care alone (no placebo was provided). Although patients and their clinicians remained aware of their treatment group assignment, the individuals who assessed outcomes were unaware of the assignments. Complete follow-up occurred for more than 97% of participants for a median of 12.7 months. Using intention-to-treat analysis, no differences occurred between the antimicrobial group and the usual care alone group for the primary end point of respiratory event–related hospitalization or all-cause mortality. No significant treatment group differences occurred in multiple secondary outcomes, including respiratory infections, fatigue, or quality of life.
An increased number of adverse events occurred in the antimicrobial groups, including diarrhea, rash, vomiting, and arrhythmias secondary to hyperkalemia. Study design: Randomized controlled trial (single-blinded) Funding source: Foundation Setting: Outpatient (specialty) Reference: Martinez FJ, Yow E, Flaherty K, R, et al.; CleanUP-IPF Investigators of the Pulmonary Trials Cooperative. Effect of antimicrobial therapy on respiratory hospitalization or death in adults with idiopathic pulmonary fibrosis: the CleanUP-IPF randomized clinical trial. JAMA. 2021;325(18):1841–1851. Page 16 Is dual antiplatelet therapy, started within 24 hours of symptom onset, more effective than aspirin in preventing subsequent cerebrovascular events in patients who have had acute stroke or transient ischemic attack (TIA)? If the authors have found all the relevant studies, administering dual antiplatelet therapy within 24 hours of a mild to moderate stroke or TIA is more effective than aspirin at decreasing recurrent stroke over the subsequent 90 days. There is a low overall risk of major bleeding, but it is significantly higher with dual antiplatelet therapy than with aspirin. (Level of Evidence = 1a–) The authors searched several databases and a trial registry to identify randomized trials that included adult patients with acute stroke or TIA who were randomized to receive antiplatelet therapy within 24 hours of symptom onset. The included studies compared the safety and efficacy of dual antiplatelet therapy (aspirin plus a P2Y12 inhibitor such as clopidogrel [Plavix], ticagrelor [Brilinta], or prasugrel [Effient]) with aspirin alone. The authors excluded patients with presumed cardioembolic strokes and patients who were not already using anticoagulation. The authors do not describe a formal assessment of study quality. They included four studies with a total of 21,459 patients: three studies evaluated clopidogrel and one evaluated ticagrelor.
Although all the trials enrolled patients with mild to moderate stroke (National Institutes of Health Stroke Scale score 0 to 5) or TIA, the distribution of patients with TIA varied from 2.6% to 43.2%. Therapy duration ranged from 21 to 90 days, and the longest follow-up period was 90 days. The rate of recurrent stroke was lower in patients treated with dual antiplatelet therapy (5.8% vs.
7.7%; number needed to treat = 53; 95% CI, 40 to 83), but the rate of major bleeding was also higher in those receiving dual antiplatelet therapy (0.66% vs.
0.27%; number needed to harm = 256; 95% CI, 172 to 476). There was no difference between groups in all-cause mortality.
There were variable degrees of heterogeneity among the data. Study design: Meta-analysis (randomized controlled trials) Funding source: Unknown/not stated Setting: Various (meta-analysis) Reference: Bhatia K, Jain V, Aggarwal D, et al. Dual antiplatelet therapy versus aspirin in patients with stroke or transient ischemic attack: meta-analysis of randomized controlled trials. Stroke. 2021;52(6):e217–e223. Page 17 Which treatments for chronic neuropathic pain can provide clinically meaningful improvement? Given the balance of benefits and harms, there is moderately good evidence for anticonvulsants (pregabalin [Lyrica] and gabapentin [Neurontin] were similarly effective and well tolerated) and serotonin-norepinephrine reuptake inhibitors (SNRIs; with duloxetine [Cymbalta] and venlafaxine being similarly effective and well tolerated) for treating diabetic neuropathy and postherpetic neuralgia. Rubefacients (usually salicylates) appear to be effective but are less well studied with low-quality evidence. Acupuncture, opioids, and tricyclic antidepressants cannot be recommended based on current evidence. (Level of Evidence = 1a–) This report describes findings from a series of meta-analyses of placebo-controlled randomized trials of at least three months' duration on the effectiveness of drug and nondrug treatments for chronic neuropathic pain, with a focus on diabetic neuropathy, postherpetic neuralgia, and trigeminal neuralgia. Only studies that provided results as the presence or absence of a clinically meaningful response, defined as at least a 30% improvement on a scale of pain and/or function, were included. Studies in pregnant patients, of acute pain, and those with an active comparator were excluded. The authors found no qualifying studies for trigeminal neuralgia, or for topical lidocaine or exercise as interventions. The authors identified 40 randomized controlled trials with moderate certainty of evidence for anticonvulsants; the bulk of the evidence was for pregabalin and gabapentin, and both were effective (number needed to treat [NNT] = 7 for one patient to respond; number need to harm [NNH] = 17 to 22 for withdrawal due to adverse events). Rubefacients (topical drugs that cause irritation and redness of skin) were studied in 10 randomized controlled trials with low certainty of evidence; low-dose patches or creams and high-potency patches were similarly effective (NNT = 7) and were generally well tolerated (NNH = 25 for withdrawal).
The SNRIs duloxetine, venlafaxine, and desvenlafaxine (Pristiq) were studied in eight moderate-certainty studies, with an NNT of 7 for response and NNH of 13 for withdrawal. Opioids were studied in six low-certainty studies, with an NNT of 8 for one patient to respond but a similar NNH of 12 for withdrawal due to adverse events. Acupuncture was only studied in three trials with very low certainty; no significant benefit was detected, although the confidence interval is wide (relative risk = 1.81; 95% CI, 0.55 to 6.0). Tricyclic anti-depressants were studied in only two small, low-certainty studies and no significant benefit was seen in the appropriate random effects meta-analysis. Results are summarized in the accompanying table.
Study design: Meta-analysis (randomized controlled trials) Funding source: Self-funded or unfunded Setting: Various (meta-analysis) Reference: Falk J, Thomas B, Kirkwood J, et al. PEER systematic review of randomized controlled trials: management of chronic neuropathic pain in primary care. Can Fam Physician.
2021;67(5):e130–e140. Editor's Note: Dr. Ebell is deputy editor for evidence-based medicine for AFP and cofounder and editor-in-chief of Essential Evidence Plus, published by Wiley-Blackwell. Page 18 What is vocal cord dysfunction? It is when your vocal cords partly close while you are breathing. This may cause sudden, severe shortness of breath, tightness in your throat, or trouble speaking. Vocal cord dysfunction can sometimes be mistaken for asthma. Many things can cause this problem. It may happen when you breathe in dry, cold air or air that has irritants in it. These may include dust, workplace chemicals, or ammonia. Other possible causes/triggers include acid reflux, asthma, postnasal drip, recent upper respiratory tract infection, stress/anxiety, and exercise. Some people are more sensitive to these things than others. How do I know if I have it?
There are two tests your doctor can do. One is nasolaryngoscopy (nay-zoe-lar-in-GOS-coh-pee). Your doctor will pass a small, flexible tube through your nose to look at your vocal cords while you breathe. This test will help your doctor know whether your vocal cords are working right. The second test is a pulmonary function test to see how well your lungs are working. For this test, you blow hard into a machine that measures the speed and amount of air moving in and out of your lungs. This test is useful in telling the difference between vocal cord dysfunction and asthma. You should avoid anything that may be causing your symptoms (for example, smoke, dust, or other irritants). Your doctor may also prescribe medicine to reduce stomach acid, lower anxiety, or control allergies. If you keep having symptoms, your doctor may suggest that you see a speech therapist. The therapist can teach you how to breathe more easily and help you relax. Where can I get more information? Page 19 What are breast implants? Breast implants are fluid- or gel-filled devices that are put into your chest to change the shape or size of your breast. Most breast implants are used after breast cancer surgery (mastectomy) or when women want to increase their breast size (augmentation). What are the types of breast implants? Breast implants are filled with saline (salt water) or silicone (gel) and come in a variety of sizes. Most women choose silicone-filled implants because they have a more natural feel.
However, it is easier to tell if saline implants break open, and the saline is easily absorbed by the body. Should I have the implant above or below the chest muscles (pectoralis)? Implants can be placed above or below the chest muscle, depending on a conversation with your surgeon; each has advantages. Placement above the muscle decreases pain after surgery. Placement below the muscle is more common after breast cancer surgery, has lower rates of infection, and has a lower rate of long-term complications.
Disadvantages of implants placed below the muscle include abnormal upward movement of the breast tissue when the pectoralis muscle contracts. What can go wrong with my implants? Infection: You can have an infection of the incision after surgery or of the implant. Most of the time, infections are treated with antibiotics, but sometimes you will need the implant removed.Contracture: Scar tissue around the implant can cause the breast to feel hard or become painful. Sometimes you will need surgery to have the implants replaced.Leaks/rupture: The material within the implant can leak. If you have saline-filled implants, it will be obvious because the saline will be absorbed, and then the breast will become flat. If you have silicone-filled implants, you may not know that the implant is leaking. The U.S. Food and Drug Administration recommends that anyone who has silicone implants have scheduled ultrasonography or magnetic resonance imaging (MRI) of their breasts to monitor for implant leakage.Breast implant–associated anaplastic large cell lymphoma: This very rare cancer is more common with implants that have a textured surface (currently not available).
Your doctor will monitor you for any signs of this disease. Importantly, breast implants do not cause breast cancer nor do they interfere with the detection of breast cancer. Where can I get more information? Page 20 This summer we held the first American Family Physician (AFP) photo competition, which was intended to encourage students and residents to share their stories through photographs about how they use the AFP journal. We are pleased to announce the winners: Zoe Gordon, MD, MPH, fourth-year resident at the Greater Lawrence Family Medicine Residency program, Lawrence, Mass.Alison Nesbitt, DO, first-year resident at the Beaumont Wayne Family Medicine Residency program, Detroit, Mich.Mikita Patel, MD, second-year resident at the McLaren Oakland Family Medicine Residency program, Pontiac, Mich. All winning photos are being shared in this issue of the journal, in the digital versions of AFP, and through the AFP social media channels. Winners received a $100 gift card and a one-year print subscription to AFP. Photo submissions receiving honorable mention are featured online and on the AFP social media channels. Thank you to everyone for the wonderful and creative submissions, which featured beautiful scenic views, collegial learning, quiet reflection, and humorous captions. Page 21 Original Article: In-flight Medical Emergencies To the Editor: We commend Drs. Hu and Smith for their article. The authors note that the Aviation Medical Assistance Act of 1998 protects the Good Samaritan health care professional because there has not been a court case for in-flight medical emergency care. We agree that litigation against physicians who provide in-flight medical emergency care is rare,1 but physicians should not underestimate the potential for lawsuits. The Aviation Medical Assistance Act does not prevent a passenger or family member from initiating a lawsuit for their in-flight medical emergency care; subsequently, for the Aviation Medical Assistance Act's indemnity, physicians must demonstrate that they provided the standard of medical care. In one lawsuit for an in-flight medical emergency that the court dismissed, the physician acknowledged the personal financial losses, time to review documents, deposition session, and most of all, the significant stress related to the litigation.2 Airline companies in the United States are ambivalent about providing legal assistance for an in-flight medical emergency, and a physician's malpractice policy may not provide support for a legal defense.3,4 Good Samaritan status could also be jeopardized if the physician accepts any compensation from the airline, including nonmonetary gifts such as mileage points, seat upgrades, and travel vouchers.5 There is a moral obligation to treat an ill passenger during a commercial air flight; however, physicians should be aware of the extent and limitation of the indemnity provided by the Aviation Medical Assistance Act, airlines, and malpractice policies. Editor's Note: This letter was sent to the authors of “In-flight Medical Emergencies,” who declined to reply. An updated clinical prediction model of protein-energy wasting for hemodialysis patients. Chen S, Ma X, Zhou X, Wang Y, Liang W, Zheng L, Zang X, Mei X, Qi Y, Jiang Y, Zhang S, Li J, Chen H, Shi Y, Hu Y, Tao M, Zhuang S, Liu N. Chen S, et al.
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