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کتابخانه

اخبار uptodate در یک نگاه

ترجمه،گردآوری و تدوین : س.کاشیان
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درپایگاه uptodate بخشی به نام What's new وجود دارد که ارائه دهنده آخرین اخبار حوزه پزشکی به تفکیک موضوعی است. این بخش شامل ۲۶ مقوله پزشکی است که هر کدام در برگیرنده مهم ترین اطلاعات جدید اضافه شده به پایگاه در هفته های اخیر می باشند.

در ادامه همه مقوله هایی که دارای اخبار و اطلاعات جدید در ماه اکتبر هستند به ترتیب الفبای عنوان ارائه شده است.

What's new in allergy and immunology
What's new in anesthesiology
What's new in cardiovascular medicine
What's new in dermatology
What's new in drug therapy
What's new in emergency medicine
What's new in endocrinology and diabetes mellitus
What's new in gastroenterology and hepatology
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What's new in Nephrology and hypertension
What's new in Neurology
What's new in Obstetrics and gynecology
What's new in Oncology
What's new in oncology
What's new in pediatrics
What's new in Psychiatry
What's new in Pulmonary and critical care medicine
What's new in Rheumatology
What's new in Sleep medicine
What's new in sports medicine (primary care)
What's new in surgery

What's new in allergy and immunology

OTHER GENERAL ALLERGY AND IMMUNOLOGY

BCG vaccination and COVID-19 (October 2020)

Components of the innate immune system, including neutrophils and macrophages, are the first line of defense against many novel pathogens for which humans have little or no pre-existing immunity. Recent large-scale epidemiological studies suggest that countries in which bacille Calmette-Guerin (BCG) vaccination is widespread have lower mortality rates from COVID-19 [14,15]. This may be explained by a phenomenon called "trained immunity," in which macrophages and neutrophils undergo epigenetic changes in response to infection, vaccination, or microbial products that modify their responses to subsequent unrelated pathogens. Although these cells are short-lived, recent work has revealed that similar changes occur in long-lived bone marrow precursors, creating a mechanism for lasting "memory" within the innate immune system [16]. (See "An overview of the innate immune system", section on 'Innate, adaptive, and trained innate immunity'.)

What's new in anesthesiology

CARDIOVASCULAR AND THORACIC ANESTHESIA

Moderate sedation with monitored anesthesia care versus general anesthesia for transcatheter aortic valve implantation (October 2020)

Moderate sedation with monitored anesthesia care (MAC) rather than general anesthesia is increasingly being used for transcatheter aortic valve implantation (TAVI), although comparative outcome data are limited. In a randomized trial comparing these techniques in nearly 450 patients with aortic stenosis undergoing transfemoral TAVI, the composite endpoint (all-cause mortality, stroke, myocardial infarction, infection requiring antibiotic therapy, and acute kidney injury at 30 days) was similar for both groups; however, over 5 percent of the MAC group required urgent conversion to general anesthesia [2]. We select the anesthetic technique for TAVI based on patient-specific factors, the chosen access site, whether transesophageal echocardiography is planned, and operator experience and preferences. (See "Anesthesia for percutaneous cardiac valve interventions", section on 'Anesthetic techniques and management'.)

What's new in cardiovascular medicine

Practice Changing UpDates

Antiplatelet therapy for transcatheter aortic valve implantation

- For patients undergoing transcatheter aortic valve implantation (TAVI) who lack a concurrent indication for dual antiplatelet therapy, we suggest treatment with a single antiplatelet agent (aspirin 75 to 100 mg daily or clopidogrel 75 mg daily) for life rather than dual antiplatelet therapy (**Grade 2B**).

The optimum antithrombotic regimen for patients undergoing transcatheter aortic valve implantation (TAVI) has been uncertain. A randomized controlled trial of over 660 patients undergoing TAVI found lower bleeding risk and similar stroke risk at one year with single antiplatelet therapy compared with dual antiplatelet therapy for the initial three months following the procedure [1]. These findings are similar to those of a previous network meta-analysis, which included three smaller trials and observational studies totaling over 20,000 patients. Based on the accumulated data showing similar thrombotic outcomes and lower bleeding risk, we now suggest single agent rather than dual antiplatelet therapy for life in most patients undergoing TAVI who lack a concurrent indication for antithrombotic therapy. However, intermediate term dual antiplatelet therapy (for three to six months) followed by single antiplatelet therapy for life is also reasonable, as this regimen was used in the pivotal TAVI trials. (See "Transcatheter aortic valve implantation: Periprocedural and postprocedural management", section on 'Without concurrent indication for dual antiplatelet therapy'.)

CORONARY HEART DISEASE, ACUTE

Reduced dose of prasugrel in Asian patients with acute coronary syndrome undergoing percutaneous coronary intervention (October 2020)

All patients with acute coronary syndrome (ACS) who undergo percutaneous coronary intervention (PCI) are treated long term with aspirin and a potent $P2Y_{12}$ inhibitor (such as prasugrel) to reduce thrombotic risk, but this benefit comes at the expense of an increased bleeding risk. East Asians are one patient group identified as being at higher than average bleeding risk. A prasugrel dose reduction strategy was evaluated in the HOST-REDUCE-POLYTECH-ACS trial, which randomly assigned over 2300 Asian patients with ACS and undergoing PCI to aspirin plus either standard dose (10 mg daily) or reduced dose (10 mg daily for one month, followed by 5 mg daily) prasugrel [3]. At one year, rates of all-cause death and non-fatal myocardial infarction were similar between the groups, but the risk of bleeding was lower in the reduced dose group. Thus, we lower the dose of prasugrel to 5 mg daily in Asian patients with ACS who have undergone PCI, as we do in individuals who weigh less than 60 kg or those 75 years or older. (See "Acute non-ST-elevation acute coronary syndromes: Antiplatelet therapy", section on 'Dose'.)

HEART FAILURE

Ertugliflozin and cardiovascular outcomes in type 2 diabetes (October 2020)
In patients with established cardiovascular or renal comorbidities, sodium-glucose co-transporter 2 (SGLT2) inhibitors have demonstrated benefit for cardiorenal outcomes. In a placebo-controlled trial of ertugliflozin in over 8000 individuals with type 2 diabetes (mean A1C 8.2 percent) and prevalent atherosclerotic cardiovascular disease (ASCVD), the primary composite endpoint of death from cardiovascular causes, nonfatal myocardial infarction, or nonfatal stroke was similar between groups (11.9 percent in each group) [6]. As in other SGLT2 trials, ertugliflozin reduced heart failure hospitalizations and some renal outcomes. In the absence of contraindications, we continue to prefer SGLT2 inhibitors for patients with diabetes when heart failure and/or albuminuric chronic kidney disease are the predominant comorbidities, rather than ASCVD. (See "Sodium-glucose co-transporter 2 inhibitors for the treatment of hyperglycemia in type 2 diabetes mellitus", section on 'Cardiovascular effects'.)

VALVULAR HEART DISEASE

Moderate sedation with monitored anesthesia care versus general anesthesia for transcatheter aortic valve implantation (October 2020)
Moderate sedation with monitored anesthesia care (MAC) rather than general anesthesia is increasingly being used for transcatheter aortic valve implantation (TAVI), although comparative outcome data are limited. In a randomized trial comparing these techniques in nearly 450 patients with aortic stenosis undergoing transfemoral TAVI, the composite endpoint (all-cause mortality, stroke, myocardial infarction, infection requiring antibiotic therapy, and acute kidney injury at 30 days) was similar for both groups; however, over 5 percent of the MAC group required urgent conversion to general anesthesia [20]. We select the anesthetic technique for TAVI based on patient-specific factors, the chosen access site, whether transesophageal echocardiography is planned, and operator experience and preferences. (See "Anesthesia for percutaneous cardiac valve interventions", section on 'Anesthetic techniques and management'.)

What's new in dermatology

PSORIASIS AND OTHER PAPULOSQUAMOUS DISORDERS

Ustekinumab for children with psoriasis (October 2020)
Randomized trials support the efficacy and safety of ustekinumab for adolescents and adults with moderate to severe psoriasis; however, no such data exist for treatment of younger children. An open-label study of 44 children with moderate to severe plaque psoriasis treated with ustekinumab found 34 (77 percent) achieved clear or almost clear skin after 12 weeks

and did not identify new safety concerns related to ustekinumab treatment [7]. The findings provide support for ustekinumab as an option for systemic treatment of psoriasis in children and contributed to FDA approval of ustekinumab for moderate to severe plaque psoriasis in children ≥6 years of age. Limitations of the study included the small size, open-label design, and absence of a placebo group. (See "Psoriasis in children: Management of chronic plaque psoriasis", section on 'Biologic agents'.)

OTHER DERMATOLOGY

Short-term glucocorticoid use and serious adverse effects (October 2020)
Aggregate data on the potential harms of short-term courses of glucocorticoids, which are prescribed for a wide range of ailments, continue to accumulate. In a nationwide insurance claims dataset of over 2.5 million persons aged 20 to 64 years who had received a single prednisone burst for ≤14 days, most commonly for respiratory tract infections and dermatology conditions, steroid bursts were associated with a 1.8- to 2.4-fold increased risk for gastrointestinal bleeding, sepsis, and heart failure within the first month of steroid initiation [8]. A previous study observed a short-term rise in venous thromboembolism and fracture risk, as well. Thus, the benefits of short-term steroid bursts should be carefully weighed against the potentially serious adverse effects prior to their administration. (See "Major side effects of systemic glucocorticoids", section on 'Dose-related effects'.)

What's new in drug therapy

RECENT APPROVALS - ONCOLOGIC

Atezolizumab in PD-L1 high NSCLC (October 2020)
New immunotherapy options are emerging in advanced non-small cell lung cancer (NSCLC). In IMpower 110, in the subset of over 200 patients with advanced NSCLC and PD-L1 expression ≥50 percent, atezolizumab improved overall survival relative to platinum basd chemotherapy (20 versus 13 months) [26]. Grade ≥3 adverse events occurred in approximately 30 percent of patients assigned to atezolizumab and 53 percent assigned to chemotherapy. These results led to approval by the US Food and Drug Administration (FDA) of atezolizumab for the front-line treatment of those with advanced PD-L1 high NSCLC (PD-L1-stained ≥50 percent of tumor cells or PD-L1-stained tumor-infiltrating immune cells covering ≥10 percent of the tumor area), with no *EGFR* or *ALK* genomic alterations [27]. (See "Management of advanced non-small cell lung cancer lacking a driver mutation: Immunotherapy", section on 'Checkpoint inhibitor monotherapy'.)

VACCINES

HPV vaccination and cervical cancer (October 2020)
Most clinical trial data on the impact of human papillomavirus (HPV) vaccination on cervical disease demonstrate reductions in cervical intraepithelial neoplasia and adenocarcinoma in situ. In a nationwide study from Sweden that included over 1.6 million females aged 10 to 30 years, HPV vaccine receipt was associated with a reduction in the incidence of invasive cervical cancer (47 versus 94 cases per 100,000 among those who had not been vaccinated; adjusted incidence rate ratio 0.37, 95% CI 0.21-0.57) [66]. The lowest incidence was among those who were vaccinated before 17 years of age. These findings lend further support for routine HPV vaccination in individuals in the appropriate age range, ideally prior to sexual debut. (See "Human papillomavirus vaccination", section on 'Cervical, vaginal, and vulvar disease'.)

Transmission of varicella vaccine virus without a rash (October 2020)
Post-marketing surveillance suggests that individuals can transmit varicella vaccine virus even if they do not develop a rash post-vaccination [67]. Although such transmission is exceedingly rare, it can result in disseminated disease. Thus, whenever possible, varicella vaccine recipients should avoid close contact with people who are susceptible to varicella and at increased risk for severe disease (eg, those who are immunocompromised, pregnant women, newborn infants of susceptible pregnant women). The optimal duration of avoidance of contact is uncertain; the prescribing information suggests up to six weeks.
(See "Vaccination for the prevention of chickenpox (primary varicella infection)", section on 'Transmission of vaccine virus'.)

What's new in emergency medicine

TRAUMA

Clinical score for identifying infants at risk for TBI (October 2020)
The infant scalp score (ISS) (table 3) is a previously derived tool designed to assist in the detection of clinically important traumatic brain injury (ciTBI; ie, TBI requiring intensive intervention or neurosurgery) or TBI (depressed or diastatic skull fracture, intracranial bleeding, or pneumocephalus on neuroimaging) in well-appearing infants with isolated scalp hematomas after minor blunt head trauma. In a secondary analysis of the Pediatric Emergency Care Applied Research Network (PECARN) TBI dataset, the ISS was validated in a cohort of almost 1300 such infants younger than one year of age and had high sensitivity for identifying those with ciTBI or TBI [24]. These findings suggest that the ISS can help stratify the risk of TBI in these young infants after minor blunt head trauma and aid in making decisions about neuroimaging. (See "Minor blunt head trauma in infants and young children (<2 years): Clinical features and evaluation", section on 'Scalp hematoma'.)

PRIMARY CARE ORTHOPEDICS AND SPORTS MEDICINE

Utility of physical therapy for patients with acute lumbosacral radiculopathy (October 2020)

Strategies to manage most patients with acute lumbosacral radiculopathy include guidance to remain physically active and incorporate exercise, but limited data are available to support this. In a trial of 220 patients with symptoms of lumbosacral radiculopathy without severe or progressive neurologic deficits, those assigned to receive physical therapy in addition to patient education reported greater symptom improvement, without higher rates of health care utilization, need for advanced imaging, or surgery [18]. We suggest a regimen of physical therapy as part of the conservative management of patients with acute lumbosacral radiculopathy. (See "Acute lumbosacral radiculopathy: Treatment and prognosis", section on 'Physical therapies'.)

What's new in endocrinology and diabetes mellitus

DIABETES MELLITUS

Ertugliflozin and cardiovascular outcomes in type 2 diabetes (October 2020)

In patients with established cardiovascular or renal comorbidities, sodium-glucose co-transporter 2 (SGLT2) inhibitors have demonstrated benefit for cardiorenal outcomes. In a placebo-controlled trial of ertugliflozin in over 8000 individuals with type 2 diabetes (mean A1C 8.2 percent) and prevalent atherosclerotic cardiovascular disease (ASCVD), the primary composite endpoint of death from cardiovascular causes, nonfatal myocardial infarction, or nonfatal stroke was similar between groups (11.9 percent in each group) [4]. As in other SGLT2 trials, ertugliflozin reduced heart failure hospitalizations and some renal outcomes. In the absence of contraindications, we continue to prefer SGLT2 inhibitors for patients with diabetes when heart failure and/or albuminuric chronic kidney disease are the predominant comorbidities, rather than ASCVD. (See "Sodium-glucose co-transporter 2 inhibitors for the treatment of hyperglycemia in type 2 diabetes mellitus", section on 'Cardiovascular effects'.)

OBESITY

Lifestyle-based obesity treatment in underserved populations (October 2020)

Behavioral-based treatment programs improve weight loss results, and the United States preventive Services Task Force (USPSTF) recommends that all adults with obesity be offered intensive, multicomponent behavioral intervention to achieve and maintain weight loss. In a cluster randomized trial including over 800 low-income adults with obesity, those participating in a 24 month high-intensity lifestyle intervention program delivered by health coaches embedded in primary care practices lost more weight than those receiving usual care [14]. Such programs may be particularly beneficial in underserved populations, which are

disproportionately affected by high rates of obesity. (See "Obesity in adults: Behavioral therapy", section on 'Behavioral-based programs'.)

PITUITARY DISORDERS

Weekly growth hormone regimen for adult growth hormone deficiency (October 2020)
Growth hormone (GH) therapy for adults with GH deficiency is burdensome as it requires lifelong, daily subcutaneous injections. A long-acting formulation (somapacitin) has been approved for once-weekly administration. In a 34-week trial of adults with GH deficiency receiving subcutaneous injections of somapacitin, weekly placebo, or daily GH, somapacitin reduced truncal fat percentage (the primary endpoint) more than placebo, but slightly less than daily GH [17]. The two GH regimens resulted in similar reductions of visceral fat, and similar increases in total lean body mass and appendicular skeletal muscle mass. Although once weekly GH therapy is more convenient than daily GH, its effect on truncal fat may be slightly less beneficial. (See "Growth hormone deficiency in adults", section on 'Weekly'.)

What's new in gastroenterology and hepatology

HEPATOLOGY

Ursodeoxycholic acid after liver transplantation for primary biliary cholangitis (October 2020)
Patients with primary biliary cholangitis (PBC) who undergo liver transplantation remain at risk for disease recurrence, which negatively impacts graft and patient survival. Ursodeoxycholic acid (UDCA) has been used for prevention of recurrence, but outcome data have been limited. In a cohort study including 780 patients who underwent liver transplantation for PBC and were followed for a median of 11 years, preventive UDCA was associated with lower risk of histologic recurrence (adjusted HR [aHR] 0.41), graft loss (aHR 0.33), liver-related death (aHR 0.46), and all-cause death (aHR 0.69) compared with no UDCA, although the upper confidence intervals for mortality approached 1.0 [6]. No randomized trials have been performed. The findings from this large study support our approach of using preventive UDCA following liver transplantation for PBC. (See "Liver transplantation in primary biliary cholangitis", section on 'Prevention'.)

Physical activity for patients with nonalcoholic fatty liver disease (October 2020)
Lifestyle interventions including diet and physical activity are used to promote weight loss for patients with nonalcoholic fatty liver disease (NAFLD), but the impact on mortality is uncertain. In an analysis of a large database of individuals with NAFLD who were followed for an average of 11 years, longer duration of physical activity was associated with lower risk of all-cause mortality (for the highest quartile of activity compared with the lowest: adjusted hazard ratio [aHR] 0.46) and cardiovascular disease-related mortality (aHR 0.28) [5]. These findings suggest that physical activity is linked to a survival benefit, but additional clinical trials are needed to determine the optimal duration and intensity of exercise for patients with NAFLD.

(See "Management of nonalcoholic fatty liver disease in adults", section on 'Initial lifestyle interventions'.)

PANCREATIC AND BILIARY DISEASE

Endoscopic ultrasound-guided intervention for patients with pancreaticojejunal stenosis (October 2020)
For patients with obstructed anastomosis following pancreaticojejunostomy, endoscopic ultrasound (EUS)-guided intervention to access the pancreatic duct (PD) has been used as an alternative to endoscopic retrograde pancreatography (ERP), but outcome data have been limited. In a systematic review of 13 studies including 202 patients with pancreaticojejunal stenosis, EUS-guided intervention was associated with higher rates of PD cannulation (79 versus 26 percent) and PD stent placement (72 versus 20 percent) compared with ERP [7]. A comparison of adverse event rates was not reported. These data suggest that an EUS-guided approach is a promising option for managing pancreaticojejunal stenosis, while its use may be limited by the availability of endoscopic expertise. (See "Therapeutic endoscopic ultrasound", section on 'EUS-guided access of the pancreatic duct'.)

OTHER GASTROENTEROLOGY AND NUTRITION

Gastrointestinal complications in patients critically ill with COVID-19 (October 2020)
Several gastrointestinal (GI) complications have been reported in critically ill patients with COVID-19. In a single center study that included 184 patients with acute respiratory distress syndrome (ARDS), patients with COVID-19 related ARDS had higher rates of GI complications compared with matched controls who had non-COVID-19-related ARDS (74 versus 37 percent). Specifically, COVID-19 was associated with higher rates of ileus (48 versus 22 percent), bowel ischemia (4 versus 0 percent), and elevated aminotransferase levels (55 versus 27 percent) [11]. Additional studies are needed to validate these findings and to elucidate their pathophysiologies. (See "Coronavirus disease 2019 (COVID-19): Issues related to gastrointestinal disease in adults", section on 'Gastrointestinal complications'.)

What's new in geriatrics

GERIATRIC RHEUMATOLOGY

American College of Rheumatology gout management guidelines (October 2020)
The American College of Rheumatology has issued new detailed guidelines and evidence review for the management of gout [17]. Further evidence to support a treat-to-target approach to urate-lowering therapy is provided. Among the new guidelines is an expanded list

of patient groups for whom HLA-B*5801 screening is advised prior to allopurinol use in order to identify patients with an elevated risk of severe cutaneous reactions. In addition to Chinese, Thai, and Korean populations, African Americans should now also be tested, and allopurinol should be avoided if the genetic variant is present. Our management approach is consistent with these recommendations. (See "Pharmacologic urate-lowering therapy and treatment of tophi in patients with gout", section on 'Recommendations of major groups' and "Pharmacologic urate-lowering therapy and treatment of tophi in patients with gout", section on 'Adverse effects'.)

What's new in hematology

MULTIPLE MYELOMA AND OTHER PLASMA CELL DISORDERS

Carfilzomib versus bortezomib in newly diagnosed multiple myeloma (June 2020, Modified October 2020)

Bortezomib, lenalidomide, and dexamethasone (VRd) is one of our preferred initial treatments for multiple myeloma (MM). Until now, low-quality data had suggested that efficacy may be improved by substituting the second generation proteasome inhibitor carfilzomib for bortezomib in this regimen (KRd). A multicenter phase 3 trial (ENDURANCE E1A11) randomly assigned over 1000 patients with previously untreated MM to induction with either KRd or VRd, each followed by a second randomization to lenalidomide maintenance [39]. VRd and KRd resulted in similar progression-free and overall survival. KRd was associated with less peripheral neuropathy, and more heart failure, hypertension, and acute kidney injury. Based on these results, we do not use KRd in patients with newly diagnosed MM, regardless of risk stratification. (See "Multiple myeloma: Selection of initial chemotherapy for symptomatic disease", section on 'Carfilzomib, lenalidomide, dexamethasone (KRd)'.)

OTHER HEMATOLOGY

New guideline for hereditary hemorrhagic telangiectasia (October 2020)

The second International Consensus Guideline for hereditary hemorrhagic telangiectasia (HHT) has been published. Six areas were addressed, including therapies for epistaxis and gastrointestinal bleeding, evaluation and treatment of anemia, use of anticoagulation, screening for hepatic arteriovenous malformations, and recommendations for children and pregnant women [50]. Preconception and prenatal diagnostic options were discussed. As emphasized in UpToDate, shared decision-making regarding surveillance strategies is an especially important component of HHT management. (See "Hereditary hemorrhagic telangiectasia (HHT): Routine care including screening for asymptomatic arteriovenous malformations (AVMs)", section on 'Overview of screening strategy'.)

What's new in infectious diseases

COVID-19

Universal testing for SARS-CoV-2 in nursing homes (October 2020)

Long-term care facilities have experienced rapid spread of COVID-19 with high case fatality rates among residents. In West Virginia, among 123 nursing homes, there were 307 cases of COVID-19 and 32 deaths reported in seven outbreaks over a four week period; however, the introduction of universal testing of residents and staff and appropriate infection control precautions/quarantine for those who test positive reduced the magnitude of subsequent outbreaks [1]. Although eight outbreaks were reported over the following three weeks, there were only 22 outbreak-associated cases and no deaths. Nursing homes should continue to focus efforts on early identification of cases through the use of universal testing, with rapid implementation of infection prevention and control measures for those with evidence of infection. (See "Coronavirus disease 2019 (COVID-19): Management in nursing homes", section on 'Screening and testing'.)

HIV INFECTION

Dolutegravir-lamivudine for patients with HIV and a suppressed viral load (October 2020)

Two-drug antiretroviral therapy regimens may be an option for select patients with HIV who are virologically suppressed and require a change in treatment (eg, due to toxicity or intolerance). In a study of 743 patients with an HIV RNA <50 copies/mL for at least six months, participants who switched to dolutegravir-lamivudine maintained virologic suppression over a one year period at a rate similar to those who continued a three- or four-drug regimen containing tenofovir alafenamide [34]. Dolutegravir-lamivudine should not be used in patients with resistance to integrase strand transfer inhibitors or nucleoside reverse transcriptase inhibitors, or in patients with hepatitis B coinfection. (See "Switching antiretroviral therapy for adults with HIV and a suppressed viral load", section on 'Two-drug regimens'.)

IMMUNIZATIONS

HPV vaccination and cervical cancer (October 2020)

Most clinical trial data on the impact of human papillomavirus (HPV) vaccination on cervical disease demonstrate reductions in cervical intraepithelial neoplasia and adenocarcinoma in situ. In a nationwide study from Sweden that included over 1.6 million females aged 10 to 30 years, HPV vaccine receipt was associated with a reduction in the incidence of invasive cervical cancer (47 versus 94 cases per 100,000 among those who had not been vaccinated; adjusted incidence rate ratio 0.37, 95% CI 0.21-0.57) [36]. The lowest incidence was among those who were vaccinated before 17 years of age. These findings lend further support for routine HPV vaccination in individuals in the appropriate age range, ideally prior to sexual

debut. (See "Human papillomavirus vaccination", section on 'Cervical, vaginal, and vulvar disease'.)

Efficacy and safety of a plant-based influenza vaccine (October 2020)

Plant-based influenza vaccine production has been proposed to address limitations of other (eg, egg-based) production methods. In one study including more than 10,000 adults 18 to 64 years of age randomly assigned to receive a plant-derived recombinant quadrivalent virus-like particle (QVLP) influenza vaccine or placebo, the absolute vaccine efficacy for prevention of respiratory illness was 35 percent; it did not meet the primary endpoint of 70 percent efficacy but nonetheless provided substantial protection [37]. In a second study including more than 12,000 adults ≥65 years of age randomly assigned to receive QVLP or egg-derived quadrivalent inactivated vaccine, the primary non-inferiority endpoint was met. The QVLP vaccine was well tolerated and no major safety issues were observed. These findings warrant further evaluation and development of plant-based vaccines. (See "Seasonal influenza vaccination in adults", section on 'Alternative production methods'.)

MYCOBACTERIAL INFECTIONS

Updated guidelines on pulmonary nontuberculous mycobacteria (October 2020)

Updated guidelines on the management of pulmonary nontuberculous mycobacterial (NTM) disease were released by the American Thoracic Society, European Respiratory Society, European Society of Clinical Microbiology and Infectious Diseases, and Infectious Diseases Society of America [43]. For *Mycobacterium avium* complex, they suggest a three-drug rather than two-drug regimen, recommend a macrolide-containing regimen, suggest azithromycin rather than clarithromycin as the macrolide, and suggest adding parenteral amikacin or streptomycin in patients with cavitary or severe nodular/bronchiectatic disease. Inhaled liposomal amikacin is recommended for patients who have failed therapy after at least six months of appropriate therapy. Our approach is consistent with these recommendations. (See "Treatment of Mycobacterium avium complex pulmonary infection in adults", section on 'Regimen selection'.)

Nitrosamine impurities in rifamycins (October 2020)

In August 2020, the US Food and Drug Administration announced detection of nitrosamine impurities in rifampin and rifapentine [44]. Nitrosamines have been implicated as potential carcinogens in animals; toxicity correlates with cumulative exposure. For treatment of patients with tuberculosis (TB) disease, we favor continued use of rifampin, since the risk of not taking rifampin likely outweighs any potential risk from nitrosamine impurities. For treatment of patients with newly diagnosed latent TB infection, decisions regarding use of rifamycin-based therapy should be based on individual circumstances after discussion of potential risks and benefits. (See "Treatment of latent tuberculosis infection in HIV-uninfected nonpregnant adults", section on 'Low-incidence settings' and "Latent tuberculosis infection in children".)

What's new in nephrology and hypertension

ACUTE AND CHRONIC KIDNEY DISEASE

Benefit of SGLT2 inhibitors in patients with diabetic and nondiabetic kidney disease (October 2020)

The use of sodium-glucose co-transporter 2 (SGLT2) inhibitors is recommended in patients with diabetic kidney disease, but the effect of these agents in patients with nondiabetic kidney disease has been unclear. In the DAPA-CKD trial, more than 4000 individuals with an estimated glomerular filtration rate (eGFR) of 25 to 75 mL/min/1.73 m^2 and urine albumin-to-creatinine ratio (ACR) of 200 to 5000 mg/g were randomly assigned to dapagliflozin (10 mg once daily) or placebo [1]. Approximately two-thirds of enrolled patients had type 2 diabetes, whereas one-third had nondiabetic kidney disease. At 2.4 years, dapagliflozin reduced all-cause mortality, the incidence of end-stage kidney disease, and the risk of a 50 percent or greater decline in eGFR. The beneficial effect of dapagliflozin was similar in patients with diabetic and nondiabetic kidney disease, reinforcing the concept that beneficial effects are independent of glycemic control. (See "Treatment of diabetic kidney disease", section on 'Type 2 diabetes: SGLT2 inhibitors'.)

Complication rates among native kidney biopsies (October 2020)

Native kidney biopsies are commonly performed in the diagnosis of acute and chronic kidney diseases but are invasive and associated with bleeding-related complications. In a large meta-analysis of 87 studies including over 118,000 native, percutaneous kidney biopsies, 3.5 percent experienced transient macroscopic hematuria, 11 percent developed perinephric hematomas (mostly small), 1.6 percent required blood transfusions, and 0.3 percent required interventions to stop bleeding [2]. Death associated with native kidney biopsy occurred in 0.06 percent of all biopsies but only 0.03 percent of outpatient biopsies. Consistent with the findings of prior studies, these results demonstrate that native kidney biopsies, although invasive, are generally safe and associated with overall low rates of bleeding complications and death. (See "The kidney biopsy", section on 'Bleeding'.)

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DIALYSIS

Ferumoxytol-enhanced MRI for planning hemodialysis AV access (October 2020)
Ferumoxytol is a magnetic resonance imaging (MRI) contrast agent without the toxicity concerns of gadolinium-based contrast in patients with advanced renal disease. In a study that imaged the vasculature of 59 participants prior to hemodialysis arteriovenous (AV) fistula creation, ferumoxytol-enhanced (FE) MRI identified 15 central venous lesions and significantly more arterial sections unsuitable for AV fistula creation compared with ultrasound (37 versus 26 percent) [10]. The combined evaluation of central and peripheral venous anatomy with FE-MRI was more predictive of AV fistula outcome than peripheral venous evaluation alone or use of ultrasound. Based on this study, FE-MRI appears to be useful for those with borderline vessels by duplex ultrasound, previous failed access or those with risk factors for central venous stenosis or peripheral arterial disease. (See "Patient evaluation prior to placement of hemodialysis arteriovenous access", section on 'Ferumoxytol-enhanced imaging'.)

GLOMERULAR DISEASE AND VASCULITIS

Targeting CD38 in patients with refractory systemic lupus erythematosus (October 2020)
Long-lived, antibody-secreting plasma cells have been implicated in the pathogenesis of systemic lupus erythematosus (SLE) but are unresponsive to standard immunosuppressive therapies. The use of daratumumab, a CD38-directed monoclonal antibody that depletes plasma cells, was described in two patients with life-threatening, treatment-refractory complications of SLE (including lupus nephritis, pericarditis, and autoimmune hemolytic anemia) [13]. In both cases, daratumumab produced favorable clinical and serologic responses without an increase in the risk of serious infections. While promising, these findings require confirmation in larger clinical trials to determine whether daratumumab will eventually play a role in the treatment of patients with SLE. (See "Overview of the management and prognosis of systemic lupus erythematosus in adults", section on 'Other agents in clinical trials'.)

What's new in neurology

NEUROMUSCULAR DISEASE

Utility of physical therapy for patients with acute lumbosacral radiculopathy (October 2020)
Strategies to manage most patients with acute lumbosacral radiculopathy include guidance to remain physically active and incorporate exercise, but limited data are available to support this. In a trial of 220 patients with symptoms of lumbosacral radiculopathy without severe or

progressive neurologic deficits, those assigned to receive physical therapy in addition to patient education reported greater symptom improvement, without higher rates of health care utilization, need for advanced imaging, or surgery [8]. We suggest a regimen of physical therapy as part of the conservative management of patients with acute lumbosacral radiculopathy. (See "Acute lumbosacral radiculopathy: Treatment and prognosis", section on 'Physical therapies'.)

NEUROONCOLOGY

Updated disease-specific prognostic assessment scale for brain metastases (October 2020)

The disease-specific graded prognostic assessment (GPA) for patients with newly diagnosed solid tumor brain metastases has been updated based on data from nearly 7000 patients treated at multiple centers between 2006 and 2017 [13]. Across all major tumor histologies, median survival has improved since the original validation of the GPA a decade ago, now ranging from 8 to 16 months depending on the primary tumor type (table 1). Within specific cancer types such as breast cancer, predicted survival ranges from 3 to 36 months depending on the GPA prognostic group. The updated GPA confirms prognostic factors including age, performance status, and extent of extracranial disease, and it incorporates information on genetic changes for which targeted therapies are available. Treatment decisions should incorporate disease-specific prognostic tools such as the updated GPA. (See "Overview of the treatment of brain metastases", section on 'Prognostic assessment'.)

What's new in obstetrics and gynecology

PRENATAL OBSTETRICS

Exome sequencing in nonimmune hydrops fetalis (October 2020)

The etiology of nonimmune hydrops fetalis (NIHF) is determined in 60 to 85 percent of cases, and this rate can be increased with use of advanced genomic testing. In a study of 127 consecutive cases of unexplained NIHF defined by the presence of ≥1 rather than 2 abnormal fluid collections in fetal compartments, exome sequencing identified a diagnostic genetic variant in 29 percent and a variant of potential clinical significance in another 9 percent of cases [1]. Disorders affecting the RAS-MAPK cell-signaling pathway (eg, Noonan syndrome) were most common, accounting for 30 percent of the genetic diagnoses. Information from exome sequencing was clinically important as it influenced counseling and clinical care. When a genetic etiology for NIHF is suspected but standard testing is nondiagnostic, we suggest consultation with a genetics professional to help direct advanced testing. (See "Nonimmune hydrops fetalis", section on 'General approach'.)

Screening for Down syndrome in twin pregnancies (October 2020)
Recent guidelines from the American College of Obstetricians and Gynecologists [2] and International Society for Prenatal Diagnosis [3] now allow for offering patients with twin pregnancies cell-free DNA screening for Down syndrome, based on emerging performance data showing high detection rates. However, test failures occur in a median 3.6% of cases (range 1.6 to 13.2%), which is higher than the rate in singletons. For patients with a positive screening test, diagnostic testing is recommended and both fetuses should be karyotyped since even monozygotic twins may be discordant. (See "Twin pregnancy: Prenatal issues", section on 'Screening and diagnostic testing for Down syndrome' and "Prenatal screening for common aneuploidies using cell-free DNA", section on 'Twins'.)

New guideline for hereditary hemorrhagic telangiectasia (October 2020)
The second International Consensus Guideline for hereditary hemorrhagic telangiectasia (HHT) has been published. Six areas were addressed, including therapies for epistaxis and gastrointestinal bleeding, evaluation and treatment of anemia, use of anticoagulation, screening for hepatic arteriovenous malformations, and recommendations for children and pregnant women [4]. Preconception and prenatal diagnostic options were discussed. As emphasized in UpToDate, shared decision-making regarding surveillance strategies is an especially important component of HHT management. (See "Hereditary hemorrhagic telangiectasia (HHT): Routine care including screening for asymptomatic arteriovenous malformations (AVMs)", section on 'Overview of screening strategy'.)

OFFICE GYNECOLOGY

HPV vaccination and cervical cancer (October 2020)
Most clinical trial data on the impact of human papillomavirus (HPV) vaccination on cervical disease demonstrate reductions in cervical intraepithelial neoplasia and adenocarcinoma in situ. In a nationwide study from Sweden that included over 1.6 million females aged 10 to 30 years, HPV vaccine receipt was associated with a reduction in the incidence of invasive cervical cancer (47 versus 94 cases per 100,000 among those who had not been vaccinated; adjusted incidence rate ratio 0.37, 95% CI 0.21-0.57) [20]. The lowest incidence was among those who were vaccinated before 17 years of age. These findings lend further support for routine HPV vaccination in individuals in the appropriate age range, ideally prior to sexual debut. (See "Human papillomavirus vaccination", section on 'Cervical, vaginal, and vulvar disease'.)

Gabapentin for chronic pelvic pain in females (October 2020)
Similar to other chronic pain syndromes, gabapentin has become widely used for the treatment of female chronic pelvic pain (CPP). In a multisite United Kingdom trial that randomly assigned 306 females with CPP of at least three months duration and no identifiable pathology to gabapentin or placebo, worst and average pain scores were similar for both groups, while dizziness was more common in the active treatment group (54 versus 26 percent) at 13 to 16 weeks after randomization [21]. Study limitations included the short follow-up, likely inclusion of patients with overlapping pain conditions, and inability to control for variation of individual pain response. As such, UpToDate continues to offer gabapentin to females with CPP as part of a multimodal, interdisciplinary treatment approach that includes

counseling on potential side effects. (See "Treatment of chronic pelvic pain in females", section on 'Review of data'.)

What's new in oncology

BREAST CANCER

Atezolizumab plus neoadjuvant chemotherapy for triple negative breast cancer (October 2020)

Trials are evaluating the incorporation of immunotherapy into the neoadjuvant management of triple negative breast cancer (TNBC). In the IMpassion031 trial, among over 300 patients with treatment-naïve stage II-III TNBC, the addition of the PD-L1-targeted monoclonal antibody atezolizumab to neoadjuvant chemotherapy improved pathologic complete response rates (58 versus 41 percent) [1]. While promising, previous data are mixed, and the effect on long-term outcomes remains unknown. Pending further data, we do not incorporate immunotherapy into the neoadjuvant management of patients with TNBC.(See "Choice of neoadjuvant chemotherapy for HER2-negative breast cancer", section on 'Investigational approaches'.)

GENITOURINARY ONCOLOGY

Timing of RT following radical prostatectomy for high-risk prostate cancer (October 2020)

Randomized trials have shown benefit for postoperative adjuvant radiation therapy (RT) compared with observation after radical prostatectomy for high-risk prostate cancer, but they did not adequately address whether early salvage RT at the time of a rising PSA is as effective as immediate adjuvant RT. Three trials in slightly different patient populations have now compared the two approaches, and all found similar cancer-specific outcomes, but approximately 50 percent of men who delayed RT were able to avoid it altogether, reducing treatment-related genitourinary toxicity [35-37]. A preplanned meta-analysis of all three trials also found no evidence that adjuvant RT improved event-free survival compared with early salvage RT [38]. For most men with node-negative resected prostate cancer who have extraprostatic extension, seminal vesicle invasion, or positive resection margins and an undetectable PSA level, we suggest early salvage rather than immediate adjuvant RT. Whether there are specific high-risk groups who might have a better outcome with adjuvant RT because of the risk of early disease progression remains unclear. (See "Prostate cancer: Pathologic stage T3 disease, positive surgical margins, and lymph node involvement following radical prostatectomy", section on 'Adjuvant versus early salvage radiation therapy'.)

HEAD AND NECK CANCER

Early studies of preoperative immunotherapy in locoregionally advanced oral cavity squamous cell cancer (October 2020)

Surgery is the preferred initial treatment for most patients with locoregionally advanced oral cavity squamous cell cancer (OCSCC). Two small phase II trials evaluated the feasibility of preoperative immunotherapy [48,49]. Immunotherapy was well tolerated and associated with pathologic tumor response in approximately half. Further study is necessary to determine whether preoperative immunotherapy can improve quality of life, progression-free survival, or overall survival. Until then, preoperative immunotherapy is not indicated for locoregionally advanced OCSCC outside of a clinical trial. (See "Treatment of locoregionally advanced (stage III and IV) head and neck cancer: The oral cavity", section on 'Preoperative (neoadjuvant) chemotherapy or immunotherapy'.)

MELANOMA AND OTHER SKIN CANCER

Long-term survival with adjuvant nivolumab in advanced melanoma (October 2020)

In patients with advanced cutaneous melanoma, the use of adjuvant immunotherapy with nivolumab is an established, well-tolerated treatment option with regulatory approval from the US Food and Drug Administration, but long term survival outcomes have not been previously reported. In a phase III trial (Checkmate 238) of approximately 900 patients with completely resected Stage IIIB-C or IV melanoma, adjuvant nivolumab improved four-year recurrence-free survival (52 versus 41 percent) and distant metastasis-free survival (59 versus 53 percent) over the CTLA-4 inhibitor ipilimumab [55]. Four year overall survival was similar between the two groups (78 versus 77 percent), and no new late emergent toxicities were reported. Based on these data, we continue to recommend one year of adjuvant immunotherapy with nivolumab in patients with definitively resected Stage IIIB-C melanoma. (See "Adjuvant and neoadjuvant therapy for cutaneous melanoma", section on 'Nivolumab'.)

Pembrolizumab for advanced cutaneous squamous cell carcinoma (July 2020, Modified October 2020)

For patients with advanced cutaneous squamous cell carcinoma (SCC) not curable with local therapies, checkpoint inhibitor immunotherapy is an effective and well-tolerated treatment option. In an open-label phase II trial (KEYNOTE-629) of approximately 100 patients with locally advanced recurrent or metastatic cutaneous SCC, the programmed cell death-1 (PD-1) inhibitor pembrolizumab demonstrated an objective response rate of 34 percent and a one-year overall survival of 60 percent, and was well-tolerated [56]. These data led to the US Food and Drug Administration approval of pembrolizumab in patients with recurrent or metastatic cutaneous SCC not curable with surgery or radiation therapy [57]. In these patients, we offer either pembrolizumab or cemiplimab, as both of these PD-1 inhibitors have regulatory

approval in this setting. (See "Systemic treatment of advanced cutaneous squamous and basal cell carcinomas", section on 'Pembrolizumab'.)

THORACIC ONCOLOGY

Postoperative radiotherapy in N2 NSCLC (October 2020)
The approach to radiotherapy in non-small cell lung cancer (NSCLC) is controversial, particularly among those with mediastinal involvement (N2 disease). In the Lung ART trial, among over 500 patients with completely resected NSCLC with pathologically proven N2 disease, those assigned to postoperative radiotherapy (PORT) experienced similar rates of relapse and survival at three years as those not receiving PORT, with higher rates of cardiopulmonary toxicity [75]. For patients with N2 disease who have been treated surgically, some experts offer PORT only to those at the highest risk of recurrence, while others do not offer PORT, given the results of this trial. However, for the majority of patients with known N2 disease, chemoradiation is the preferred approach over surgery. (See "Management of stage III non-small cell lung cancer", section on 'Those with N2 involvement diagnosed at surgery'.)

Atezolizumab in PD-L1 high NSCLC (October 2020)
New immunotherapy options are emerging in advanced non-small cell lung cancer (NSCLC). In IMpower 110, in the subset of over 200 patients with advanced NSCLC and PD-L1 expression ≥50 percent, atezolizumab improved overall survival relative to platinum basd chemotherapy (20 versus 13 months) [66]. Grade ≥3 adverse events occurred in approximately 30 percent of patients assigned to atezolizumab and 53 percent assigned to chemotherapy. These results led to approval by the US Food and Drug Administration (FDA) of atezolizumab for the front-line treatment of those with advanced PD-L1 high NSCLC (PD-L1-stained ≥50 percent of tumor cells or PD-L1-stained tumor-infiltrating immune cells covering ≥10 percent of the tumor area), with no *EGFR* or *ALK* genomic alterations [67]. (See "Management of advanced non-small cell lung cancer lacking a driver mutation: Immunotherapy", section on 'Checkpoint inhibitor monotherapy'.)

Reinitiation of platinum-based chemotherapy in SCLC with late relapse (October 2020)
Patients with small cell lung cancer (SCLC) with late relapses may have disease that remains responsive to their initial treatment. For example, in a randomized trial in over 160 patients with relapse at least 90 days after platinum-etoposide treatment, patients assigned to carboplatin and etoposide had a longer median progression free survival relative to those assigned to topotecan (4.7 versus 2.7 months, hazard ratio 0.57), with greatest benefit for those with relapses >180 days (HR 0.23) [68]. For patients with SCLC that relapses >6 months from initial therapy, we resume platinum-based chemotherapy, while for those with earlier relapses, we move to the next line of treatment. (See "Treatment of refractory and relapsed small cell lung cancer", section on 'Patients with relapses >6 months after treatment (late relapse)'.)

What's new in pediatrics

NEONATOLOGY

Prevention and control of Staphylococcus aureus infections in the NICU (October 2020)
New guidelines from the Centers for Disease Control and Prevention (CDC) provide recommendations for the prevention and control of *Staphylococcus aureus* infections in the neonatal intensive care unit (NICU) [11]. General infection control measures (eg, hand hygiene and standard precautions) remain key methods. In addition, for NICUs with increased incidence of infection, ongoing healthcare-associated transmission, or outbreaks, the CDC recommends performance of active surveillance with culture or PCR-based methods and consideration of decolonization of colonized neonates in consultation with hospital experts in infection control and epidemiology. In companion guidance, the Society for Healthcare Epidemiology of America suggests continuation of contact precautions for the duration of hospitalization in colonized infants [12]. We agree with these recommendations. (See "Methicillin-resistant Staphylococcus aureus (MRSA) in children: Prevention and control", section on 'Neonatal intensive care unit'.)

ALLERGY, IMMUNOLOGY, AND RHEUMATOLOGY

Biologics and small molecule inhibitors for polyarticular JIA (October 2020)
Two additional disease-modifying antirheumatic drugs (DMARDs), golimumab [17], a biologic agent that inhibits tumor necrosis factor (TNF) alpha, and tofacitinib [18], a small molecule inhibitor that blocks Janus kinase (JAK) activity, have been approved by the US Food and Drug administration for the treatment of polyarticular juvenile idiopathic arthritis (pJIA) based upon unpublished data from pediatric trials and adult data. While methotrexate is still the DMARD of choice for initial management of pJIA in most patients, indications for using a biologic agent in addition to or rather than methotrexate include presence of severe polyarthritis, poor prognostic features, or factors associated with poor response to methotrexate (eg, predominantly axial arthritis). In children with continued disease activity after three months of treatment, golimumab and tofacitinib provide new treatment options alone or in combination with other treatments as determined by the initial treatment. (See "Polyarticular juvenile idiopathic arthritis: Treatment", section on 'Initial management' and "Polyarticular juvenile idiopathic arthritis: Treatment", section on 'Golimumab' and "Polyarticular juvenile idiopathic arthritis: Treatment", section on 'Tofacitinib'.)

DEVELOPMENTAL AND BEHAVIORAL PROBLEMS

Behavioral sleep management in children with neurodevelopmental disorders (October 2020)

Children with neurodevelopmental disorders such as attention deficit hyperactivity disorder and autism spectrum disorder are at increased risk for problem sleeplessness, which may be caused by disturbance of sleep-wake cycles, discomfort due to comorbidities, medications used to treat the condition, and conditioned or behavioral factors. A recent meta-analysis of nine randomized trials in 690 children with neurologic and neurodevelopmental disorders found moderate quality evidence that behavioral sleep interventions (eg, sleep hygiene, stimulus control, sleep scheduling) improve sleep outcomes, including self-reported sleep disturbances and sleep patterns as measured by actigraphy, compared with a control condition [20]. These data lend further support to behavioral interventions for sleep problems in children with neurodevelopmental disorders. (See "Medical disorders resulting in problem sleeplessness in children", section on 'Behavioral management'.)

EMERGENCY MEDICINE

Clinical score for identifying infants at risk for TBI (October 2020)

The infant scalp score (ISS) (table 1) is a previously derived tool designed to assist in the detection of clinically important traumatic brain injury (ciTBI; ie, TBI requiring intensive intervention or neurosurgery) or TBI (depressed or diastatic skull fracture, intracranial bleeding, or pneumocephalus on neuroimaging) in well-appearing infants with isolated scalp hematomas after minor blunt head trauma. In a secondary analysis of the Pediatric Emergency Care Applied Research Network (PECARN) TBI dataset, the ISS was validated in a cohort of almost 1300 such infants younger than one year of age and had high sensitivity for identifying those with ciTBI or TBI [21]. These findings suggest that the ISS can help stratify the risk of TBI in these young infants after minor blunt head trauma and aid in making decisions about neuroimaging. (See "Minor blunt head trauma in infants and young children (<2 years): Clinical features and evaluation", section on 'Scalp hematoma'.)

HEMATOLOGY AND ONCOLOGY

New guideline for hereditary hemorrhagic telangiectasia (October 2020)

The second International Consensus Guideline for hereditary hemorrhagic telangiectasia (HHT) has been published. Six areas were addressed, including therapies for epistaxis and gastrointestinal bleeding, evaluation and treatment of anemia, use of anticoagulation, screening for hepatic arteriovenous malformations, and recommendations for children and pregnant women [35]. Preconception and prenatal diagnostic options were discussed. As emphasized in UpToDate, shared decision-making regarding surveillance strategies is an especially important component of HHT management. (See "Hereditary hemorrhagic

telangiectasia (HHT): Routine care including screening for asymptomatic arteriovenous malformations (AVMs)", section on 'Overview of screening strategy'.)

What's new in psychiatry

CHILD AND ADOLESCENT PSYCHIATRY

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Children with neurodevelopmental disorders such as attention deficit hyperactivity disorder and autism spectrum disorder are at increased risk for problem sleeplessness, which may be caused by disturbance of sleep-wake cycles, discomfort due to comorbidities, medications used to treat the condition, and conditioned or behavioral factors. A recent meta-analysis of nine randomized trials in 690 children with neurologic and neurodevelopmental disorders found moderate quality evidence that behavioral sleep interventions (eg, sleep hygiene, stimulus control, sleep scheduling) improve sleep outcomes, including self-reported sleep disturbances and sleep patterns as measured by actigraphy, compared with a control condition [1]. These data lend further support to behavioral interventions for sleep problems in children with neurodevelopmental disorders. (See "Medical disorders resulting in problem sleeplessness in children", section on 'Behavioral management'.)

PSYCHIATRIC CONSEQUENCES OF MEDICAL CONDITIONS

Safety of antidepressants in acute coronary syndrome (October 2020)

Although depression in patients with coronary artery disease increases risks for all-cause mortality, suicide, and cardiac morbidity, clinicians may be reluctant to prescribe antidepressants due to concerns about adverse cardiac events. However, in a meta-analysis of six randomized trials comparing a selective serotonin receptor inhibitor (SSRI) with placebo/no intervention in over 1000 depressed patients with stable coronary disease or acute coronary syndrome (ACS), use of SSRIs reduced the risk for myocardial infarction, and risks for all-cause mortality, angina, congestive heart failure, and stroke were similar for both groups [5]. For patients with unipolar major depression after ACS, we suggest psychotherapy plus an antidepressant, but psychotherapy alone or medication alone is reasonable depending on individual preferences, clinical factors, and availability. (See "Psychosocial factors in acute coronary syndrome", section on 'Overview'.)

What's new in pulmonary and critical care medicine

COPD

Nocturnal noninvasive ventilation in hypercapnic COPD (October 2020)
Consensus guidelines from the American Thoracic Society (ATS) support the use of nocturnal noninvasive ventilation (NIV) in patients with chronic stable hypercapnia [1]. Meta-analyses included in the guidelines found improvements in quality of life, dyspnea, and exercise tolerance with nocturnal NIV, but nonsignificant trends for decreased mortality and hospitalizations. While the ATS guidelines suggest a threshold arterial tension of carbon dioxide ($PaCO_2$) >45 mmHg for initiation of nocturnal NIV, the majority of clinical trials have used a threshold of $PaCO_2 \geq 52$ mmHg, which is the threshold used by third party payors. We continue to suggest nocturnal NIV for chronic hypercapnic COPD. (See "Nocturnal ventilatory support in COPD", section on 'Efficacy of nocturnal NIV'.)

Brensocatib may reduce exacerbations in bronchiectasis (October 2020)
In bronchiectasis, excess activity of dipeptidyl peptidases (DPPs) may contribute to perpetuation of neutrophilic inflammation and lung destruction. Brensocatib, an investigational, reversible inhibitor of DPP-1, was assessed in a phase 2 trial (WILLOW) in which over 200 participants who had at least two exacerbations in the prior year were randomly assigned to brensocatib (10 mg or 25 mg) or placebo for 24 weeks [2]. The time to first exacerbation was longer and the rate of exacerbations reduced with brensocatib compared with placebo. Brensocatib was well-tolerated. Longer term trials are needed to determine benefit and safety in bronchiectasis. (See "Bronchiectasis in adults: Treatment of acute exacerbations and advanced disease", section on 'Future directions'.)

OTHER PULMONARY MEDICINE

Morphine for palliative treatment of dyspnea (October 2020)
Systemic opioids are often used to treat chronic refractory breathlessness, although data regarding their efficacy are limited. The Morphine for the Treatment of Dyspnea in Patients with COPD (MORDYC) trial randomized 124 patients with moderate to very severe chronic breathlessness (despite participation in a pulmonary rehabilitation program) to low-dose sustained-release morphine or placebo [25]. After four weeks, the COPD Assessment Test (CAT) score, a measure of disease specific health status, showed greater improvement with morphine than placebo, and participants with more severe dyspnea derived the greatest benefit. Increases in arterial tension of carbon dioxide ($PaCO_2$) were minimal and similar between morphine and placebo groups; no morphine-related hospital admissions or deaths occurred. This trial supports UpToDate's recommendation for careful use of systemic opioids in palliative care patients who have distressing dyspnea despite general measures such as those listed in the table (table 1). (See "Assessment and management of dyspnea in palliative care", section on 'Opioids'.)

Updated guidelines on pulmonary nontuberculous mycobacteria (October 2020)
Updated guidelines on the management of pulmonary nontuberculous mycobacterial (NTM) disease were released by the American Thoracic Society, European Respiratory Society, European Society of Clinical Microbiology and Infectious Diseases, and Infectious Diseases Society of America [26]. For *Mycobacterium avium* complex, they suggest a three-drug rather than two-drug regimen, recommend a macrolide-containing regimen, suggest azithromycin rather than clarithromycin as the macrolide, and suggest adding parenteral amikacin or streptomycin in patients with cavitary or severe nodular/bronchiectatic disease. Inhaled liposomal amikacin is recommended for patients who have failed therapy after at least six months of appropriate therapy. Our approach is consistent with these recommendations. (See "Treatment of Mycobacterium avium complex pulmonary infection in adults", section on 'Regimen selection'.)

What's new in rheumatology

CRYSTAL DISEASE

American College of Rheumatology gout management guidelines (October 2020)
The American College of Rheumatology has issued new detailed guidelines and evidence review for the management of gout [1]. Further evidence to support a treat-to-target approach to urate-lowering therapy is provided. Among the new guidelines is an expanded list of patient groups for whom HLA-B*5801 screening is advised prior to allopurinol use in order to identify patients with an elevated risk of severe cutaneous reactions. In addition to Chinese, Thai, and Korean populations, African Americans should now also be tested, and allopurinol should be avoided if the genetic variant is present. Our management approach is consistent with these recommendations. (See "Pharmacologic urate-lowering therapy and treatment of tophi in patients with gout", section on 'Recommendations of major groups' and "Pharmacologic urate-lowering therapy and treatment of tophi in patients with gout", section on 'Adverse effects'.)

SYSTEMIC LUPUS ERYTHEMATOSUS AND SJOGREN'S SYNDROME

Targeting CD38 in patients with refractory systemic lupus erythematosus (October 2020)
Long-lived, antibody-secreting plasma cells have been implicated in the pathogenesis of systemic lupus erythematosus (SLE) but are unresponsive to standard immunosuppressive

therapies. The use of daratumumab, a CD38-directed monoclonal antibody that depletes plasma cells, was described in two patients with life-threatening, treatment-refractory complications of SLE (including lupus nephritis, pericarditis, and autoimmune hemolytic anemia) [10]. In both cases, daratumumab produced favorable clinical and serologic responses without an increase in the risk of serious infections. While promising, these findings require confirmation in larger clinical trials to determine whether daratumumab will eventually play a role in the treatment of patients with SLE. (See "Overview of the management and prognosis of systemic lupus erythematosus in adults", section on 'Other agents in clinical trials'.)

OTHER RHEUMATOLOGY

Short-term glucocorticoid use and serious adverse effects (October 2020)
Aggregate data on the potential harms of short-term courses of glucocorticoids, which are prescribed for a wide range of ailments, continue to accumulate. In a nationwide insurance claims dataset of over 2.5 million persons aged 20 to 64 years who had received a single prednisone burst for ≤14 days, most commonly for respiratory tract infections and dermatology conditions, steroid bursts were associated with a 1.8- to 2.4-fold increased risk for gastrointestinal bleeding, sepsis, and heart failure within the first month of steroid initiation [15]. A previous study observed a short-term rise in venous thromboembolism and fracture risk, as well. Thus, the benefits of short-term steroid bursts should be carefully weighed against the potentially serious adverse effects prior to their administration. (See "Major side effects of systemic glucocorticoids", section on 'Dose-related effects'.)

What's new in sleep medicine

PARASOMNIAS AND SLEEP-RELATED MOVEMENT DISORDERS

Topiramate in patients with sleep-related eating disorder (October 2020)
Previous observational data suggested that topiramate might reduce episodes of sleep-related eating disorder (SRED), a variant of sleepwalking sometimes associated with restless legs syndrome (RLS) and other sleep disorders. In a small trial of 34 adults with SRED, topiramate reduced eating symptoms as well as body weight over a three-month period compared with placebo [4]. Side effects were more common in the topiramate group, including cognitive dysfunction and paresthesias. While treatment of coexisting sleep disorders and behavioral sleep management remain first-line strategies, topiramate may be considered in patients with refractory SRED. (See "Disorders of arousal from non-rapid eye movement sleep in adults", section on 'Management'.)

PEDIATRIC SLEEP MEDICINE

Behavioral sleep management in children with neurodevelopmental disorders (October 2020)

Children with neurodevelopmental disorders such as attention deficit hyperactivity disorder and autism spectrum disorder are at increased risk for problem sleeplessness, which may be caused by disturbance of sleep-wake cycles, discomfort due to comorbidities, medications used to treat the condition, and conditioned or behavioral factors. A recent meta-analysis of nine randomized trials in 690 children with neurologic and neurodevelopmental disorders found moderate quality evidence that behavioral sleep interventions (eg, sleep hygiene, stimulus control, sleep scheduling) improve sleep outcomes, including self-reported sleep disturbances and sleep patterns as measured by actigraphy, compared with a control condition [6]. These data lend further support to behavioral interventions for sleep problems in children with neurodevelopmental disorders. (See "Medical disorders resulting in problem sleeplessness in children", section on 'Behavioral management'.)

What's new in sports medicine (primary care)

INJURIES

Treatment options for frozen shoulder (October 2020)

Few well-conducted, controlled trials of interventions for frozen shoulder have been performed. In a multi-center trial (the UK FROST Study) of 503 adults with severe symptoms of frozen shoulder of at least 9 to 10 months duration who were randomized to arthroscopic capsular release (ACR), manipulation under anesthesia (MUA), or structured physiotherapy (PT), differences in a validated score of shoulder function at 12 month follow-up were statistically significantly higher for ACR compared with either MUA or PT, but the differences were small and unlikely to be clinically important [2]. The risk of clinically important adverse events such as pneumonia, stroke, or deep vein thrombosis, was significantly higher in the ACR group. These results support our initial approach to frozen shoulder, typically a self-limited condition: gentle physical therapy, as tolerated, supplemented by glucocorticoid injection, as needed. We reserve surgical referral for truly refractory patients who are not improving with nonoperative management. (See "Frozen shoulder (adhesive capsulitis)", section on 'Referral and surgery'.)

What's new in surgery

ARTERIAL AND VENOUS ACCESS

Ferumoxytol-enhanced MRI for planning hemodialysis AV access (October 2020)
Ferumoxytol is a magnetic resonance imaging (MRI) contrast agent without the toxicity concerns of gadolinium-based contrast in patients with advanced renal disease. In a study that imaged the vasculature of 59 participants prior to hemodialysis arteriovenous (AV) fistula creation, ferumoxytol-enhanced (FE) MRI identified 15 central venous lesions and significantly more arterial sections unsuitable for AV fistula creation compared with ultrasound (37 versus 26 percent) [3]. The combined evaluation of central and peripheral venous anatomy with FE-MRI was more predictive of AV fistula outcome than peripheral venous evaluation alone or use of ultrasound. Based on this study, FE-MRI appears to be useful for those with borderline vessels by duplex ultrasound, previous failed access or those with risk factors for central venous stenosis or peripheral arterial disease. (See "Patient evaluation prior to placement of hemodialysis arteriovenous access", section on 'Ferumoxytol-enhanced imaging'.)

VASCULAR AND ENDOVASCULAR SURGERY

Outcomes for transcarotid artery revascularization (October 2020)
Transcarotid artery revascularization (TCAR) involves placing a carotid stent through a small incision at the base of the neck along with flow reversal to prevent cerebral emboli. In the prospective single arm ROADSTER 2 study of TCAR in patients with indications for revascularization and at high risk for complications from carotid endarterectomy, 97.9 percent of the per protocol population achieved the primary composite outcome of technical success plus absence of stroke, death, or myocardial infarction (MI) [13]. Rates of perioperative stroke; stroke or death; or stroke, death, or MI were 0.6, 0.8, and 1.7 percent, respectively. Although the efficacy of embolic protection to prevent stroke during carotid artery stenting has not been proven, the low stroke rate in this study suggests that avoiding passage of devices across an often diseased aortic arch is beneficial. (See "Overview of carotid artery stenting", section on 'Safety and efficacy studies'.)