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The latest physician jobs brought to you by the NEJM CareerCenter

Residents and Fellows Edition

Featured Employer Profile





November 12, 2020

Dear Physician:

As you near completion of your training, I'm sure that finding the right employment opportunity is a top priority for you. The *New England Journal of Medicine* (NEJM) is the leading source of information about job openings, especially practice opportunities, in the country. Because we want to assist you in this important search, a complimentary reprint of the classified advertising section of the November 12, 2020, issue is enclosed.

The NEJM CareerCenter website (NEJMCareerCenter.org) continues to receive positive feedback from physician users. Because the site was designed specifically based on advice from your colleagues, many physicians are comfortable using it for their job searches and welcome the confidentiality safeguards that keep personal information and job searches private. We've recently added the ability to search for locum tenens, giving physicians the flexibility of looking for both permanent and locum tenens positions in their chosen specialties and desired geographic locations.

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Our popular Clinical Practice articles offer evidence-based reviews of topics relevant to practicing physicians. A reprint of the August 6, 2020, Clinical Practice article, "Native-Valve Infective Endocarditis," is included in this special booklet.

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A career in medicine is challenging, and current practice leaves little time for keeping up with changes. With this in mind, we have developed these new features to bring you the best, most relevant information in a practical and clinically useful format each week.

On behalf of the entire *New England Journal of Medicine* staff, please accept my wishes for a rewarding career.

Sincerely,

Eric J. Rubin, MD, PhD

Preparing for the Virtual Physician-Job Interview

The interview has become a new world, for now, with the pandemic, and both prospective employers and physician candidates are adjusting

By Bonnie Darves

Physicians and other health care professionals know well that functioning — and practicing medicine — in a pandemic is a very different and much altered experience from a year ago. Even though physicians and residents are often providing care in fraught and challenging environments, when it comes to looking for a new practice opportunity, they're not likely to find themselves at the point of care but rather in their living rooms. Interviews have gone virtual in a big way as the risks and logistics of the traditional site interview have prompted employers and even candidates to forgo site visits.

What this means is that both parties are having to adjust. Employers are increasingly vetting candidates without ever shaking hands or watching physicians interact in live group settings. Physicians are trying to figure out how to put their best face forward over video platforms such as Zoom, Skype, GoToMeeting, or Cisco Webex, to name a few, and how to make the most of what can be an awkward exchange.

The good news, for physicians, is that this is a new and evolving experience for all involved. As such, it's important to keep in mind that many people, including employers and senior physicians on the call, might find the video virtual interview challenging. It's not a technology-proficiency test, after all. However, on the technology front, physicians who find themselves in job-search mode during the coronavirus pandemic should do their best to prepare themselves, their environment, and their computers or devices for a successful meeting. The means "attending" the session as professionally as possible and ensuring that extraneous factors or technology don't get in the way of a productive conversation.

Some of the prerequisites for virtual interviews are no different than they would be for a formal site-visit interview. First and foremost, look the part and dress professionally. It might feel awkward to don a suit or, for women, other formal business attire, but that's a must. Physicians should be well dressed, well groomed, and reasonably refreshed when going to a video interview. In other words, treat the experience as if it were a formal site

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interview that you traveled to and prepared for in advance. Leave the casual demeanor behind, or at least in the other room.

It's key to know exactly who will be on the video call and what their roles are, so that candidates can read bios and prepare accordingly. It's also appropriate to ask about the length of the interview and to request an agenda, if one will be prepared.

Following are some of the most important considerations in preparing for a video interview:

Prepare and “professionalize” the immediate environment. For starters, the room should be well and brightly lit and the background clean and free of clutter. That means ensuring that there isn't an unsightly stove or a television or even a stack of books or laundered T-shirts in view. As a background, a blank wall, an unembellished window, or a background cabinet with a non-distracting tasteful décor item all work well. Alternatively, many video platforms enable use of green-screen effects, which replace the actual background with a digital or virtual background. A word of caution is in order here: Candidates whose home environments are unsuitable and who want to use a background should opt for something clean and simple, not a potentially distracting image of a tropical beach, an old-growth forest, or a fake wine cellar. Finally, make sure that the lighting in the room is unobtrusive and doesn't interfere or produce visible glare.

Do a trial run and then take the time to record a hypothetical session with a friend or family member. In advance of a virtual interview, candidates should receive specific instructions on the technology that will be used, as well as a link for getting into the session. For those who haven't used the technology that will host the meeting, it's important to get a trial subscription and ensure they're familiar with the way it works and any features that might be used. Many physicians in primary care and internal medicine subspecialties have already had their trial by fire conducting patient virtual visits, but for others, video-meeting platforms might be new turf.

Get rid of noise and potential distractions. The interview setting should be quiet and calm. That means ensuring that background noises, including pets and family members, aren't a factor. Ideally, opt for a completely quiet room — and house or apartment — if possible, and close windows to minimize street noise. Even minor background sounds, such as someone starting a washing machine two rooms away, can be bothersome

enough to be overheard or, worse, distract the interviewee. Of course, it goes without saying that cell phones should be silenced and that all computer notifications that might chime during the session are turned off.

Ensure optimal body and face positioning. Even virtual-meeting veterans have likely found out the hard way that having the face positioned too far up or down, and the computer screen below eye level, can affect the experience. The interviewee's head should be looking straight ahead, not down toward a keyboard, which could be very distracting to the interviewer(s). If a candidate is hunched over, for example, that will be visible to interviewers.

Having the computer or device properly elevated before the interview begins is key, so that the physician doesn't need to make adjustments during the session. And once the session is underway, it's important to maintain focus by not moving the head too much or looking off to the side. Even if that feels somewhat stiff, it won't come across that way to the interviewer. It's OK to use some body language, when appropriate, but that should be kept to a minimum because there's not a large room to “absorb” it. Finally, physicians who aren't sure how best to position their devices should ask for help from someone with virtual-meeting experience before the interview. In any event, the interviewee and the equipment should be positioned to enable natural-seeming eye contact between all parties.

Get the technology in order. First and foremost, ensure that the Internet connection is solid, and that the computer or device is fully charged and updated, so that it's not likely to interject with an “update-needed” message. It's also a good idea to close out any applications and websites that might be running in the background, not only because of potential distraction but also to ensure that the call loads efficiently.

Second, although computers and devices have built-in speakers and some have microphones, the quality of that audio experience can vary considerably. Physicians who expect to attend multiple video interviews or a period of a few months should consider purchasing and installing high-quality USB audio technology. One of the frequent complaints that business people make these days about video meetings that involve potentially multiple attendees is that poor-quality audio from an attendee's computer is distracting.

The same goes for the video quality. Most laptops have an integrated web camera, but some might not, and older desktop computers likely don't have one. If the video quality on the computer is poor, it might be worthwhile to purchase a good-quality web camera. Then, ensure that it's optimally positioned — ideally above the screen, and look at the camera, not the screen, while speaking.

Finally, if the physician candidate might be asked to share a document or other item onscreen, preparing in advance is crucially important. Spending a fretful minute or two trying to get the requested item in view can be nerve-racking for the physician and possibly annoying for the interviewer.

Some aspects of interviews haven't changed

After physicians have prepared their environments and equipment to support a successful interview, they should remember that even with the pandemic, the expectation is that the proceedings will be business focused. Just because there's not a conference room in the mix, it doesn't mean that casual behavior is okay. It isn't. The session likely will be conducted formally and highly professionally. As such, interviewees should avoid chitchat or lengthy discussion about the pandemic unless the interviewer raises the topic and seeks their perspective.

One thing to watch for in the video interview is that people sometimes talk over each other more than they might in a room, when they're anxious to make a point. That's never okay in a face-to-face meeting, and it's potentially more distracting (and apparent) within the confines of a video session. Because there is sometimes a brief lag after someone speaks, depending on the technology in use, it's advisable to wait an extra second or two before speaking.

As with any interview, candidates should ask questions at the end of the interview — about culture, team makeup, and roles and responsibilities — and during proceedings if it's appropriate. Those questions should be prepared ahead of time. Candidate should also spend extra time researching the organization and reviewing any information that's available online about both the practice and the community. Without the benefit of a facility walk-through, the physician candidate might need to elicit important information about the actual working environment, available equipment, and other factors

that would affect daily practice. It also helps to keep the names of interview participants handy in any virtual roundtable interview involving more than three participants.

As with any type of interview, timely follow-up is important. Candidates should send an email thank-you note to key interviewers and any recruiter or staff member(s) who arranged the session, ideally within 24 hours. If the candidate is highly interested in the position, it's appropriate to express that in the thank-you note and to inquire about possible next steps.

 Did you find this article helpful? What other topics would you like to see covered? Please send us an email to let us know what you thought at resourcecenter@nejm.org.

When You Finally Get to Pick — Choosing Your First Job out of Training

By Nisha Mehta, MD

Do you remember checking off the “pre-med” box in college? For many of us, that decision set us on a trajectory for the next decade or more — what classes to take, exams to study for, and rotations to do. Sure, we had some decisions along the way, such as choice of specialty, fellowship, and medical school and training programs, but for the most part, somebody told us where and when to show up, and what to do, and we did so.

As you approach the end of training, there’s a different decision that in many ways is much more complicated. Now you’ve got to figure out what that life you’ve been working so hard for actually looks like. Do you want to be an academic physician, a physician employed by an organization, in private practice, or go out on your own? Do you want to practice full time or part time, and if part time, what does that look like? Do you want to take call or not? What complexity of patients do you want to see? Who do you want your colleagues to be?

For the first time in your adult life, you get to decide what everyday looks like, and for many early career physicians, on any given day, depending on who you speak to, you could be persuaded into a lot of decisions.

This is where it’s really important to take a step back, and ask yourself what it is that you really want. It’s also time to brush away all the answers that you “should” give, which you’ve carefully honed over the years to reflect preconceived notions about what being a doctor looks like. You really don’t have to fit a stereotype anymore. If you want to work two days a week from 9–2, chances are, if you try hard enough and are flexible enough, you can make that happen.

Here’s my advice. First, take some time to list all of your dealbreakers. This goes in both directions in terms of things that you need to be happy and things that will actively make you unhappy. If you know that any job that requires you to take your vacation in one week blocks instead of having the ability to take individual days will detract from your overall happiness, put it on there. Then start listing qualities in the ideal situation. Be brutally honest with yourself about things: how much money you want to earn, where you want to live, and what kind of hours you want. If your ideal job has a true lunch hour where you can eat or exercise, put that down on the list.

If your ideal job requires partners that regularly have journal club and go over cases together, put that down. This isn’t to say you will find a job that has every single thing you want, but it helps to have objective criteria to look at when evaluating options. This way, you don’t get swayed when a job offers you twice what you had listed as the amount of money you need, but is wrong for you in every other way.

Once you have your list ready, try and talk to people who have similar jobs. This can be hard for a lot of trainees, because you may not have a lot of exposure to physicians outside of your academic institution. Reach out to your alumni networks from medical school and residency, online physician communities, medical societies, or elsewhere to see what pros and cons they may point out that you hadn’t thought of. While you have their attention, ask them if they know of any jobs that meet those criteria or places to start looking, and ask them for input about jobs that you may have come across. Often times, someone will have inside information about a particular organization or group that may positively or negatively influence whether you want to take a job.

Of course, your final step is how you actually feel after you’ve interviewed at a job. This is a long topic that likely warrants its own post, so I’ll write about that another time.

As straightforward as this may sound, most graduating trainees don’t take the time to go through this process, and it’s probably a big contributor to why job turnover is so high in the first few years into practice. Many people jump on job offers for the wrong reasons — the job is prestigious, recommended to them by a mentor, it’s in the town they’ve always pictured themselves living in but not the right practice setting, or simply because they’re afraid that they won’t find another job. Although some practicalities will always factor into your job search, don’t start from that point. Start with that list you put together above, and it’ll give you criteria to judge each opportunity that comes your way, and hopefully land that job that’s right for you. While no job is perfect, making sure that your major goals are fulfilled by it will go a long way towards both personal and professional happiness.

 Did you find this article helpful? What other topics would you like to see covered? Please send us an email to let us know what you thought at resourcecenter@nejm.org.

ORIGINAL ARTICLE

Caren G. Solomon, M.D., M.P.H., *Editor*

Native-Valve Infective Endocarditis

Henry F. Chambers, M.D., and Arnold S. Bayer, M.D.

This Journal feature begins with a case vignette highlighting a common clinical problem. Evidence supporting various strategies is then presented, followed by a review of formal guidelines, when they exist. The article ends with the authors' clinical recommendations.

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A 72-year-old man with type 2 diabetes mellitus, stage 2 chronic kidney disease, and a history of mild aortic stenosis is admitted to the hospital with fever, dysuria, and urinary frequency. His temperature is 38.9°C, the pulse is regular at 110 beats per minute, and the blood pressure is 145/95 mm Hg. His lungs are clear; a grade 3/6 systolic ejection murmur is heard at the right upper sternal border. Laboratory tests are notable for a hemoglobin level of 12 g per deciliter, a white-cell count of 13,500 per cubic millimeter (with 80% polymorphonuclear cells), a serum glucose level of 340 mg per deciliter (18.7 mmol per liter), a serum creatinine level of 1.7 mg per deciliter (150 μmol per liter), and a urinalysis with 3+ protein, 20 to 50 white cells per high-power field, and 4+ glucose. Two blood cultures and a urine culture are positive for ampicillin-susceptible *Enterococcus faecalis*. How would you further evaluate and treat this patient?

THE CLINICAL PROBLEM

EPIDEMIOLOGIC, PATHOPHYSIOLOGICAL, AND CLINICAL FEATURES

NATIVE-VALVE INFECTIVE ENDOCARDITIS IS UNCOMMON, WITH AN INCIDENCE OF APPROXIMATELY 2 TO 10 CASES PER 100,000 PERSON-YEARS.^{1,2} The presumed initiating event is injury to the valvular endothelium or endocardium. This injury exposes subendothelial collagen and other matrix molecules to which platelets and fibrin adhere and form a microthrombotic lesion called a sterile vegetation. Bacteria circulating in the bloodstream then bind to and colonize this lesion. In the absence of an effective host response, bacteria replicate in situ, stimulating further platelet and fibrin deposition to form an infected vegetation that is the hallmark of infective endocarditis (Fig. 1).

Vegetations create a protective microenvironment that is poorly accessible to neutrophils and host defense molecules. Vegetations are loaded with bacteria at very high densities (i.e., 10^9 to 10^{10} colony-forming units [CFU] per gram of vegetation) that promote high-grade bacteremia and further growth of the vegetation, which becomes friable and readily fragments into the circulation. These conditions (high bacterial densities, growing vegetation, and friability and fragmentation of the growing vegetation) drive the four mechanisms that are responsible for most of the clinical features of infective endocarditis and its complications: valvular destruction, paravalvular extension of infection, and heart failure; microvascular and large-vessel embolization; metastatic infection of target organs (e.g., the brain, kidneys, spleen, and lungs); and immunologic phenomena such as hypocomplementemic glomerulonephritis and false positive serologic findings of rheu-

KEY CLINICAL POINTS

NATIVE-VALVE INFECTIVE ENDOCARDITIS

- The modified Duke criteria, which are based on findings on physical examination, echocardiography, microbiologic studies, and computed tomographic and magnetic resonance imaging of target organs, are sensitive and specific for the clinical diagnosis of infective endocarditis.
- Transesophageal echocardiography, which is more sensitive than transthoracic echocardiography (TTE) for identifying valvular vegetations and periannular complications of infective endocarditis, is indicated when TTE is negative or nondiagnostic.
- Beta-lactam antibiotics are recommended over vancomycin or daptomycin for treatment of infective endocarditis caused by methicillin-susceptible *Staphylococcus aureus*.
- In older patients with infective endocarditis caused by *Enterococcus faecalis*, especially those with underlying renal disease or those receiving other nephrotoxic agents, ampicillin plus ceftriaxone is preferred over aminoglycoside-containing regimens.
- Early surgery for uncontrolled infection, congestive heart failure caused by valvular dysfunction, or prevention of central nervous system embolization is associated with improved outcomes.
- A transition to an oral step-down regimen after an initial intravenous course of therapy may be considered in selected patients.

matoid factor, antineutrophil antibodies, or syphilis.

Cardiac conditions that predispose to infective endocarditis include congenital disease (e.g., ventricular septal defect and bicuspid aortic valve) and acquired valvular disease (e.g., degenerative valvular disease, aortic stenosis, and rheumatic heart disease). Rheumatic heart disease, the most common predisposing condition for infective endocarditis in developing countries, is uncommon in developed countries, where the most frequent predisposing cardiac conditions are degenerative valvular diseases, congenital valvular abnormalities, and intracardiac devices.^{3,4} Non-cardiac risk factors include poor dentition, intravenous drug use, hemodialysis, chronic liver disease, diabetes, compromised immunity, neoplastic disease, and indwelling intravascular devices.

Fever and heart murmur, the two signature features of infective endocarditis, are present in approximately 90% and 75% of patients, respectively.^{1,3} Infective endocarditis may present acutely with a rapidly progressive course complicated by congestive heart failure, stroke, systemic or pulmonary embolization, severe sepsis or septic shock, or subacutely with nonspecific symptoms such as low-grade fever, malaise, chills, sweats, dyspnea, back pain, arthralgias, and weight loss over a period of weeks or sometimes months. Microembolic or immunologic phenomena such as splinter hemorrhage, conjunctival hemorrhage, Osler nodes (distal vasculitic lesions of the fingers and toes), Janeway lesions (vasculitic lesions of the palms and soles), and Roth spots (hemor-



Figure 1. Mitral-Valve Vegetations in Infective Endocarditis.

Panel A shows the gross appearance of a large vegetation on a rheumatic mitral valve, as measured in centimeters. Panel B shows hematoxylin and eosin staining of a microscopic cross section of a mitral-valve vegetation. Bacteria (black arrow) are surrounded by fibrin and embedded within the vegetation, and inflammatory cells (white arrow) are present on the surface of the vegetation.

An audio version of this article is available at NEJM.org

Table 1. Modified Duke Criteria for the Clinical Diagnosis of Infective Endocarditis.*

Major clinical criteria	
Positive blood culture	Typical microorganisms (<i>Staphylococcus aureus</i> , viridans streptococci, <i>Streptococcus gallolyticus</i> , HACEK [haemophilus species, aggregatibacter (formerly actinobacillus) species, cardiobacterium species, <i>Eikenella corrodens</i> , and kingella species], and community-acquired enterococci in the absence of a primary focus) consistent with infective endocarditis from two separate blood cultures
	Microorganisms consistent with infective endocarditis from persistently positive blood cultures, defined as ≥2 positive cultures from blood samples drawn >12 hr apart or all of 3 or a majority of ≥4 separate cultures of blood (with first and last sample drawn at least 1 hr apart)
	Single positive blood culture for <i>Coxiella burnetii</i> or phase I IgG antibody titer >1:800
Positive echocardiography	Vegetation (defined as an oscillating intracardiac mass on a valve or supporting structure), abscess, or new partial dehiscence of a prosthetic valve
	New valvular regurgitation (an increase or change in preexisting murmur is not sufficient)
Minor clinical criteria	
	Presence of predisposing cardiac condition or intravenous drug use
	Temperature ≥38.0°C (100.4°F)
	Vascular phenomena such as systemic arterial emboli, septic pulmonary emboli, mycotic aneurysm, intracranial hemorrhage, conjunctival hemorrhages, or Janeway lesions
	Immunologic phenomena such as glomerulonephritis, Osler nodes, Roth spots, or rheumatoid factor
	Positive blood cultures that do not meet major criteria, or serologic evidence of active infection with organism consistent with infective endocarditis

* Adapted from Li et al.⁶ A definite diagnosis is based on two major criteria, five minor criteria, or one major criterion plus three minor criteria. Possible endocarditis is based on three minor criteria or one major criterion plus one minor criterion. If criteria for either definite or possible endocarditis are not met, the diagnosis of infective endocarditis is rejected.

rhagic retinal lesions) are present in 5 to 10% of patients.

MICROBIOLOGIC FEATURES

Worldwide, gram-positive bacteria account for approximately 80% of cases of native-valve infective endocarditis. These bacteria include *Staphylococcus aureus* in 35 to 40% of cases of native-valve infective endocarditis, streptococci in 30 to 40% (viridans streptococci in approximately 20% and *Streptococcus gallolyticus* [formerly *S. bovis*] and other streptococci in approximately 15%), and enterococci in 10%.^{1,2,4} Coagulase-negative staphylococci, a common cause of prosthetic-valve infective endocarditis, are uncommon in native-valve infective endocarditis, except for *S. lugdunensis*, which resembles *S. aureus* clinically. HACEK species (haemophilus species, aggregatibacter [formerly actinobacillus] species, cardiobacterium species, *Eikenella corrodens*, and kingella species), fungi, polymicrobial infection, and, rarely, aerobic gram-negative bacilli are isolated in 5% of cases.

STRATEGIES AND EVIDENCE

EVALUATION AND DIAGNOSIS

The modified Duke criteria provide the framework for the diagnosis of infective endocarditis. A definite pathological diagnosis can be made if organisms are identified on histologic analysis or culture of the vegetation, intracardiac abscess, or peripheral embolus, or if evidence of a vegetation or intracardiac abscess is confirmed by histologic analysis showing active endocarditis.⁵ A definite or possible clinical diagnosis of infective endocarditis is based on a combination of major and minor criteria that are rooted in microbiologic, echocardiographic, and clinical metrics (Table 1). The sensitivity of the modified Duke criteria for infective endocarditis is approximately 80% for definite cases and higher if possible cases are included.^{6,7} These criteria have lower sensitivity in infections related to a prosthetic valve or cardiac device, endocarditis on the right side of the heart, and culture-negative infective endocarditis.^{7,8} The negative predictive value is

Table 2. Diagnosis of Culture-Negative Endocarditis.*

Microorganism	Clinical and Epidemiologic Clues	Serologic Testing	Specific RT-PCR Assay†	Ribosomal RNA PCR Assay‡
<i>Bartonella henselae</i> , <i>B. quintana</i>	Exposure to cats (<i>B. henselae</i>), homelessness (<i>B. quintana</i>), body lice (<i>B. quintana</i>), human immunodeficiency virus infection; most common cause of culture-negative endocarditis in the United States	Available	Available	Available
Brucella species	Consumption of unpasteurized dairy products, exposure to tissue or fluids from infected animals (cattle, goats, sheep, or dogs)	Available	—	Available
<i>Coxiella burnetii</i>	Contact with farm animals (cattle, goats, or sheep), abattoir exposure, laboratory exposure; common cause of culture-negative endocarditis in southern Europe and Middle East	Available	Available	Available
Fungi	Injection drug use, immunosuppression, prosthetic valve	Available	—	Available
Legionella species	Immunocompromised host, prosthetic valve	Available§	Available	Available
Mycoplasma species	Acute infection, prosthetic valve	Available¶	—	Available
Staphylococci, streptococci, enterococci, HACEK	Previous use of antibiotics	—	Available	Available
<i>Tropheryma whippelii</i>	Chronic systemic illness, arthralgias, weight loss, gastrointestinal symptoms, central nervous system involvement	—	Available	Available

* Dashes indicate that the test to detect the microorganism is not available or not applicable. HACEK denotes haemophilus species, aggregatibacter (formerly actinobacillus) species, cardiobacterium species, *Eikenella corrodens*, and kingella species; PCR polymerase chain reaction; and RT-PCR reverse-transcriptase PCR.

† The sensitivity is substantially higher if the RT-PCR or broad-range 16S or 18S RNA PCR assay is performed on a valvular vegetation or on abscess material rather than blood.

‡ Broad-range PCR assays target 16S and 18S ribosomal RNA genes.

§ Serologic tests and urinary antigen tests detect only the *Legionella pneumophila* serotype 1.

¶ Serologic tests are performed to detect only *Mycoplasma pneumoniae*.

|| Biopsy of the involved extracardiac tissue (e.g., small bowel and synovium, if present) is recommended.

approximately 90% when criteria are not met for either definite or possible infective endocarditis.

Blood cultures are the most important microbiologic tests for the diagnosis and treatment of infective endocarditis, and they fulfill a major Duke criterion. Antimicrobial therapy largely depends on the blood-culture isolate and its antimicrobial susceptibility. Approximately 90 to 95% of cases of native-valve infective endocarditis are blood culture-positive. To maximize recovery of a pathogen, three separate sets of blood cultures drawn 30 minutes apart are recommended before the initiation of antibiotics.^{9,10} Blood culture-negative cases are most commonly caused by recent administration of antimicrobial agents or by organisms that grow poorly or not at all in standard blood culture media (e.g., bartonella species, *Coxiella burnetii*, *Tropheryma whippelii*, and legionella).¹¹

Serologic and molecular testing for likely

pathogens should be performed if blood cultures are negative; this testing is guided by epidemiologic clues (e.g., *C. burnetii* infection may be associated with exposure to farm animals, and *Bartonella quintana* infection may be associated with homelessness) (Table 2). Molecular diagnosis is based on nucleic acid amplification by polymerase chain reaction (PCR), either with specific primers for a particular species or genus, or with broad-range primers targeting the 16S ribosomal RNA (rRNA) gene for bacterial pathogens or the 18S rRNA gene for fungal pathogens. For PCR diagnostic tests, the reported sensitivities are 33 to 90% and the reported specificities are 77 to 100%.^{11,12} Next-generation sequencing, which is expected to be more accurate than PCR-based methods, is anticipated in the coming years. The preferred specimen for molecular assays is an excised valve or vegetation. Plasma DNA amplification assays may as-

sist in microbiologic diagnosis in cases in which the pathogen is difficult to determine.

Echocardiography is an essential tool in the diagnosis and management of infective endocarditis.¹³ The sensitivity for detection of vegetations in native-valve infective endocarditis is 50 to 60% with transthoracic echocardiography (TTE) and 90% or more with transesophageal echocardiography (TEE).¹³⁻¹⁵ The specificities of both are approximately 95%. Because TTE is also less sensitive than TEE for detecting intracardiac complications (e.g., paravalvular abscess), TEE is preferred to rule out infective endocarditis in patients in whom this condition is suspected and to assess intracardiac complications.

Among newer forms of imaging,^{16,17} the most widely studied is ¹⁸F-fluorodeoxyglucose cardiac positron-emission tomography (PET) plus computed tomography (CT). PET-CT is most applicable to the diagnosis and evaluation of prosthetic-valve infective endocarditis; its role in native-valve infective endocarditis is poorly studied and unclear.

ANTIMICROBIAL THERAPY

Recommendations for antimicrobial therapy for infective endocarditis (Table 3) are based almost entirely on observational studies rather than on randomized clinical trials. These recommendations rest on four basic principles: the ability of the regimen to kill the pathogen, the administration of a prolonged course of therapy (i.e., weeks rather than days), intensive dosing to ensure adequate drug exposure, and source control. In general, vancomycin plus ceftriaxone is a reasonable choice for empirical therapy to cover likely pathogens while cultures are pending in patients with native-valve infective endocarditis.

For susceptible strains, beta-lactam antibiotics are the cornerstone of definitive therapy. These agents are preferred over others unless the patient cannot take them without adverse effects or there is a documented immediate (type I) hypersensitivity reaction. Infective endocarditis that is caused by penicillin-nonsusceptible strains of viridans streptococci, *S. gallolyticus*, abiotrophia species, or granulicatella species can be treated with a combination of penicillin or ceftriaxone plus gentamicin; vancomycin monotherapy is an option, although there is less overall experience with this agent.

An antistaphylococcal penicillin (e.g., oxacillin)

is the drug of choice for infective endocarditis that is caused by methicillin-susceptible strains of *S. aureus* (MSSA). Randomized, controlled trials have shown that combination therapy with an antistaphylococcal penicillin and either gentamicin or rifampin does not improve outcomes and is associated with adverse events; therefore, this combination is not recommended.^{9,10,18,19} Cefazolin is a reasonable alternative for patients with MSSA who cannot receive penicillin without adverse effects.^{9,20,21} One concern with cefazolin is that some strains have an “inoculum effect,” which is defined as an increase in the broth dilution minimum inhibitory concentration (MIC) to 16 µg per milliliter or greater at an inoculum of 5×10⁷ CFU per milliliter (100 times the standard inoculum of approximately 5×10⁵ CFU per milliliter).²² This inoculum effect, which is due at least in part to hydrolysis of cefazolin by staphylococcal penicillinase, may be associated with clinical failure.²³

Daptomycin or vancomycin monotherapy is recommended for treatment of native-valve infective endocarditis caused by methicillin-resistant *S. aureus* (MRSA).^{24,25} The benefit of combination therapy remains unproved. A randomized trial comparing vancomycin (or, in 8 patients, daptomycin) alone or in combination with an antistaphylococcal beta-lactam antibiotic (primarily flucloxacillin) for MRSA bacteremia in 363 patients (including 42 with infective endocarditis) showed no benefit of the combination for the primary composite outcome of mortality at 90 days, persistent bacteremia at day 5, microbiologic relapse, or microbiologic treatment failure.²⁶ The combination group had higher mortality at 90 days (despite more rapid clearance of blood cultures) and a significantly higher incidence of acute kidney injury. Anecdotal data suggest that combining a second agent (e.g., ceftaroline) with vancomycin or daptomycin may benefit patients who have persistent bacteremia or otherwise do not have a response.²⁷⁻²⁹ However, the most beneficial combination is currently unknown.

Combination therapy is recommended for the treatment of enterococcal infective endocarditis. Penicillin or ampicillin in combination with low-dose, synergistic gentamicin has been the standard treatment for decades. The usefulness of this regimen is limited by gentamicin toxicity and an increasing incidence of high-level resistance to gentamicin that indicates a lack of

Table 3. Antimicrobial Regimens for Treatment of Native-Valve Infective Endocarditis.*

Microorganism and Regimen	Dose and Duration of Treatment†	Comments
Viridans streptococci, <i>Streptococcus gallolyticus</i>		
Penicillin MIC ≤0.12 µg/ml		
Penicillin G	12 million–18 million units/day intravenously in 4–6 divided doses for 4 wk	
Ceftriaxone	2 g intravenously once daily for 4 wk	
Vancomycin	30 mg/kg/day intravenously in 2–3 divided doses for 4 wk	
Penicillin G plus gentamicin	Penicillin G (12 million–18 million units/day intravenously in 4–6 divided doses) plus gentamicin (3 mg/kg intravenously once daily) for 2 wk	Avoid gentamicin in patients with preexisting renal disease, in the elderly, and in patients at risk for nephrotoxicity or ototoxicity (i.e., in those receiving other potentially nephrotoxic or ototoxic drugs)
Ceftriaxone plus gentamicin	Ceftriaxone (2 g intravenously once daily) plus gentamicin (3 mg/kg intravenously once daily) for 2 wk	Avoid gentamicin in patients with preexisting renal disease, in the elderly, and in patients at risk for nephrotoxicity or ototoxicity (i.e., in those receiving other potentially nephrotoxic or ototoxic drugs)
Penicillin MIC >0.12 to <0.5 µg/ml		
Penicillin G plus gentamicin	Penicillin G (24 million units/day intravenously in 4–6 divided doses for 4 wk) plus gentamicin (3 mg/kg intravenously once daily for 2 wk)	
Ceftriaxone plus gentamicin	Ceftriaxone (2 g once daily for 4 wk) plus gentamicin (3 mg/kg intravenously once daily for 2 wk)	If the ceftriaxone MIC of the isolate is ≤0.5 µg/ml, ceftriaxone alone is an option
Vancomycin	30 mg/kg/day in 2–3 divided doses for 4 wk	
<i>Abiotrophia defectiva</i>, granulicatella species, viridans streptococci, <i>S. gallolyticus</i>, penicillin MIC ≥0.5 µg/ml		
Penicillin G plus gentamicin	Penicillin G (24 million units/day intravenously in 4–6 divided doses) plus gentamicin (3 mg/kg intravenously in 2–3 doses) for 4–6 wk	European Society of Cardiology guidelines ¹⁰ recommend penicillin or ceftriaxone for 6 wk plus gentamicin for ≥2 wk
Vancomycin	30 mg/kg/day in 2–3 divided doses for 4–6 wk	
Enterococci		
Ampicillin plus gentamicin	Ampicillin (12 g/day in 6 divided doses) plus gentamicin (3 mg/kg intravenously in 2–3 divided doses) for 4–6 wk	Not recommended for strains with high-level aminoglycoside resistance; limited data suggest that gentamicin can be discontinued after 2 wk
Penicillin G plus gentamicin	Penicillin G (24 million units/day intravenously in 4–6 doses) plus gentamicin (3 mg/kg intravenously in 2–3 divided doses) for 4–6 wk	Not recommended for strains with high-level aminoglycoside resistance; limited data suggest that gentamicin can be discontinued after 2 wk
Ampicillin plus ceftriaxone	Ampicillin (12 g/day in 6 divided doses) plus ceftriaxone (2 g every 12 hr) for 6 wk	Recommended for strains with high-level aminoglycoside resistance
Vancomycin plus gentamicin	Vancomycin (30 mg/kg/day in 2–3 divided doses) plus gentamicin (3 mg/kg/day in 2–3 divided doses) for 6 wk	Not recommended for strains with high-level aminoglycoside resistance; regimen of last resort because of toxicity
Methicillin-susceptible <i>Staphylococcus aureus</i>		
Nafcillin or oxacillin	12 g/day intravenously in 6 divided doses for 6 wk	
Cefazolin	6 g/day intravenously in 3 divided doses for 6 wk	Vancomycin or daptomycin is an option for patients who cannot receive beta-lactam antibiotics without adverse effects or with immediate hypersensitivity to beta-lactam antibiotics

Microorganism and Regimen	Dose and Duration of Treatment†	Comments
Methicillin-resistant <i>S. aureus</i>		
Vancomycin	30–60 mg/kg/day intravenously in 2–4 divided doses for 6 wk	The target 24-hr area under the concentration curve is 400–600 µg× hr/ml
Daptomycin	10 mg/kg/day intravenously once daily for 6 wk	
HACEK		
Ceftriaxone	2 g intravenously once daily for 4 wk	
Ciprofloxacin	800 mg/day intravenously or 1500 mg orally in 2 divided doses for 4 wk	
Levofloxacin	750 mg intravenously or orally once daily for 4 wk	

* HACEK denotes haemophilus species, aggregatibacter (formerly actinobacillus) species, cardiobacterium species, *Eikenella corrodens*, and kingella species; and MIC minimum inhibitory concentration.

† The duration of therapy once blood cultures have converted to negative is shown.

Heart failure
Refractory pulmonary edema or cardiogenic shock due to aortic-valve or mitral-valve dysfunction, obstruction, fistula, or shunt
Aortic-valve or mitral-valve regurgitation or dysfunction with poorly compensated hemodynamic function
Uncontrolled infection
Fungal pathogen
Multidrug-resistant pathogen
Blood cultures that are persistently positive for an antibiotic-susceptible pathogen in a patient receiving appropriate antimicrobial therapy for 6 or 7 days despite adequate source control of other foci of infection
Paravalvular complications (e.g., abscess)
Prevention of systemic embolization
Aortic-valve or mitral-valve vegetation >10 mm, especially when accompanied by ≥1 embolic events while the patient is receiving appropriate therapy

synergy. Observational data suggest that a 6-week course of ampicillin plus ceftriaxone is an acceptable alternative for treatment of infective endocarditis caused by ampicillin-susceptible strains of *E. faecalis*.^{9,10,20,30} If the ampicillin–gentamicin combination is used, the efficacy of combination therapy for 2 weeks followed by ampicillin alone for 4 to 6 weeks may be similar to that of the standard combination regimen for 4 to 6 weeks and is less toxic.^{31,32}

SURGICAL MANAGEMENT

The three main indications for surgery in patients with native-valve infective endocarditis are heart failure due to valvular dysfunction or perforation, uncontrolled endocardial infection (e.g.,

paravalvular extension or persistent bacteremia), and prevention of systemic embolization, especially to the brain (Table 4). In a prospective cohort study involving patients with native-valve infective endocarditis, a multivariable analysis with adjustment for coexisting conditions showed that an indication for surgery without performance of the surgery was an independent predictor of death.³³ The appropriate timing of valve surgery is not well defined and is a highly individualized decision that is best made by an experienced multidisciplinary team.³⁴

One small randomized, controlled trial compared early surgery during the initial hospitalization and within 48 hours after randomization (in 37 patients) with conventional treatment (in 39 patients) in patients with endocarditis on the left side of the heart, severe valvular regurgitation (without heart failure), and large vegetations (>10 mm in diameter).³⁵ Early surgery significantly reduced the risk of the combined end point of in-hospital death or embolic events within 6 weeks after randomization, but this decreased risk was driven entirely by decreases in the risk of systemic embolism. This trial was limited in that patients had few underlying diseases, and patients with streptococcal infections and mitral-valve infective endocarditis were overrepresented. Two meta-analyses showed that early surgery, as compared with conventional therapy (i.e., medical therapy or late surgery at >20 days), was associated with a 40 to 60% reduction in death from any cause.^{36,37} However, how best to identify patients who are most likely to benefit from early valve surgery remains unclear.

AREAS OF UNCERTAINTY

Modified Duke criteria for the clinical diagnosis of infective endocarditis are not based on the results of molecular diagnostic testing. As these methods improve in accuracy and become routinely available, their role in diagnosis will need to be taken into account.

Whether routine brain magnetic resonance imaging (MRI) and other advanced imaging techniques such as PET-CT improve the diagnosis, treatment, and outcomes in patients with native-valve infective endocarditis is unclear. MRI is more sensitive than CT for detecting central nervous system (CNS) lesions, and the presence of asymptomatic embolic lesions in patients with suspected infective endocarditis is a minor criterion in support of the diagnosis.^{16,17,38} Routine brain MRI has been recommended to detect silent CNS emboli in patients who are candidates for valvular surgery,³⁴ although whether this improves outcomes is unknown.

Data from randomized, controlled trials to inform the benefits and risks of oral antimicrobial therapy for infective endocarditis are limited. The Partial Oral Treatment of Endocarditis (POET) trial³⁹ showed that in patients with infective endocarditis on the left side of the heart and whose condition had stabilized, treatment with oral antibiotics after an initial course of intravenous antibiotics was noninferior to standard intravenous antibiotic treatment at 6 months after the end of treatment; longer-term follow-up showed no deleterious outcomes with oral step-down therapy.⁴⁰ However, only 20% of the patients who underwent screening were enrolled, and few had *S. aureus* infection (none with MRSA). Additional data are needed to clarify the safety and efficacy of this approach in a variety of clinical settings.⁴¹

The timing of surgery in patients with infective endocarditis, criteria for delaying surgery, and predictors of surgical mortality and poor outcomes need to be better defined. Most guidelines recommend delaying valve surgery for at least 4 weeks in patients with large embolic CNS lesions or intracranial hemorrhage,^{9,10,20} although earlier surgery may be safely performed in selected patients despite these conditions⁴² and in patients with small embolic brain lesions (<2 cm in diameter), without hemorrhage or major neurologic deficits. Several scoring systems have

been proposed to predict surgical mortality and postoperative complications in patients with infective endocarditis⁴³; however, limitations, including small sample sizes, reliance on retrospective data, changes in surgical practice over time (which may span decades), and lack of large-scale, external validation make it difficult to assess the accuracy of these systems.

GUIDELINES

The American Heart Association, the European Society of Cardiology, the Japanese Society of Cardiology, and the American Association for Thoracic Surgery^{9,10,20,34} have each published guidelines on the diagnosis and management of infective endocarditis. These guidelines are generally concordant in their recommendations, with relatively minor differences with respect to antimicrobial therapy, forms of imaging, and indications for and timing of surgery. The recommendations presented here are in general agreement with these guidelines.

CONCLUSIONS AND RECOMMENDATIONS

The patient described in the vignette has community-acquired enterococcal pyelonephritis with bacteremia. On purely clinical grounds, the presence of bacteremia plus a murmur in a febrile patient is strongly suggestive of underlying infective endocarditis. At presentation, this patient probably satisfies three minor Duke criteria for possible endocarditis: fever; two positive blood cultures for *E. faecalis*, but with a primary focus of pyelonephritis (hence, this is not a major criterion); and aortic stenosis, a predisposing cardiac condition.

Additional blood cultures should be obtained, which if positive would meet a major criterion for the diagnosis of infective endocarditis — persistently positive blood cultures. Echocardiography should be performed immediately to document the nature of the valvular lesion and the presence of vegetations or complications of infective endocarditis. Although TEE is much more sensitive than TTE for detecting valvular vegetations and paravalvular complications, we would start with TTE, since it is noninvasive, can be readily performed, and provides better information on myocardial function (e.g., the ejection

fraction). If TTE is negative or nondiagnostic, then TEE is indicated given the strong suspicion for infective endocarditis. If TEE is nondiagnostic and suspicion for infective endocarditis remains high, then it should be repeated several days later.

We would engage a multidisciplinary team in care, including specialists in cardiology, cardiovascular surgery, and infectious diseases. Combination antimicrobial therapy for treatment of presumed enterococcal infective endocarditis should be administered promptly. Although susceptibility of the isolate to gentamicin should be confirmed, this patient's age, diabetes, and chronic kidney disease place him at high risk for acute kidney injury from gentamicin, and we

would favor initial treatment with ampicillin and ceftriaxone. Blood cultures should be obtained to confirm clearance of bacteremia with therapy, and the patient should be carefully evaluated for any indications for immediate valve surgery. Antimicrobial therapy should be continued 6 weeks after blood cultures convert to negative. Consideration also should be given to screening colonoscopy, since some data suggest that, similar to infective endocarditis caused by *S. gallolyticus*, enterococcal infective endocarditis may be associated with colonic neoplasm,^{44,45} although further study is needed.

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Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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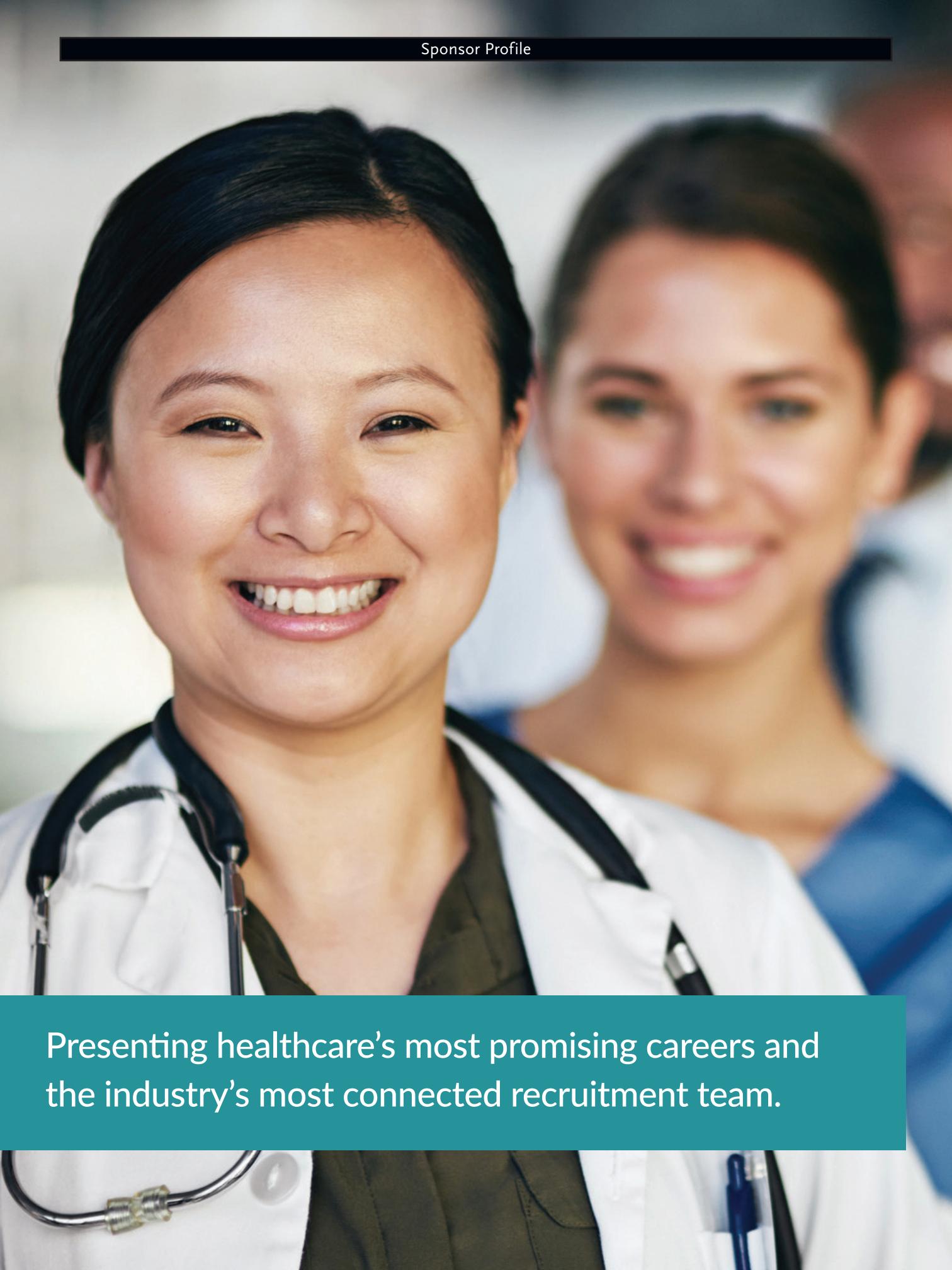
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Send CV	= 2 words
December 10, 2007	= 3 words
617-555-1234	= 1 word
Obstetrician/Gynecologist ...	= 1 word
A	= 1 word
Dalton, MD 01622	= 3 words

As a further example, here is a typical ad and how the pricing for each insertion is calculated:

MEDICAL DIRECTOR — A dynamic, growth-oriented home health care company is looking for a full-time Medical Director in greater New York. Ideal candidate should be board certified in internal medicine with subspecialties in oncology or gastroenterology. Willing to visit patients at home. Good verbal and written skills required. Attractive salary and benefits. Send CV to: Reply Box 0000, NEJM.

This advertisement is 58 words. At \$9.80 per word, it equals \$568.40. Because a reply box was requested, there is an additional charge of \$75.00 for each insertion. The price is then

\$643.40 for each insertion of the ad. This ad would be placed under the Chiefs/Directors/Department Heads classification.

How to Respond to NEJM Box Numbers

When a reply box number is indicated in an ad, responses should be sent to the indicated box number at the address under "Contact Information."

Classified Ads Online

Advertisers may choose to have their classified line and display advertisements placed on NEJM CareerCenter for a fee. The web fee for line ads is \$115.00 per issue per advertisement and \$190.00 per issue per advertisement for display ads. The ads will run online two weeks prior to their appearance in print and one week after. For online-only recruitment advertising, please visit nejmcareercenter.org for more information, or call 1-800-635-6991.

Policy on Recruitment Ads

All advertisements for employment must be non-discriminatory and comply with all applicable laws and regulations. Ads that discriminate against applicants based on sex, age, race, religion, marital status or physical handicap will not be accepted. Although the *New England Journal of Medicine* believes the classified advertisements published within these pages to be from reputable sources, NEJM does not investigate the offers made and assumes no responsibility concerning them. NEJM strives for complete accuracy when entering classified advertisements; however, NEJM cannot accept responsibility for typographical errors should they occur.

NEJM is unable to forward product and service solicitations directed to our advertisers through our reply box service.

Classified Ad Deadlines

Issue	Closing Date
December 17	November 25
December 24	December 4
December 31	December 10
January 7	December 16

Hematology-Oncology

ELEVEN-PHYSICIAN, INDEPENDENT ONCOLOGY-HEMATOLOGY SINGLE SPECIALTY GROUP — In southern New Hampshire seeks full-time BC/BE oncologist/hematologist. Forward-thinking practice with collegial office atmosphere. DFCI and Alliance affiliation. Active in clinical research. One-ten call responsibility. Hospitalist coverage. Excellent quality of life; less than one hour from Boston, the White Mountains, and the ocean. Competitive compensation and benefit package offered for this excellent practice opportunity. Send CV to Eliza Browne, Chief Operating Officer at: e.browne@nhoh.com or via fax: 603-622-7438.

**PRACTICAL ARTICLES.
JOB-SEEKING TIPS.
NEJMCareerCenter.org**

BC/BE HEM/ONC FOR FULL-TIME OR PART-TIME POSITION — Join busy two-physician private practice in lovely community hospital near Philadelphia. Attractive salary leading to partnership. (No Visa.) Send CV to: jenarmstrong121@gmail.com

MEDICAL ONCOLOGIST/HEMATOLOGIST — To join five Triple Board Certified Hematologist/Oncologist Group in NWI suburbs of Chicago. Attractive competitive compensation and benefits package including Pension Plan; Auto, Education, and Telephone Allowances; Life and Disability Insurance; Professional Liability Coverage. CV to: hemoncmd1@gmail.com



Search by specialty.
Search by location.
Search locum tenens.

NEJMCareerCenter.org

Nephrology

LARGE NEPHROLOGY PRACTICE IN NORTHERN NEW JERSEY — Looking for a Clinical Nephrologist and a Transplant Nephrologist. Competitive salary, performance incentives with clear partnership path. Just 25 minutes from NYC. Interested candidates, please e-mail CV to: melmomd@aol.com

NEJM was ranked #1 as a source of job leads, both in print and online.* Advertise with us today to reach the top candidates in the industry at NEJMCareerCenter.org.

*How Physicians Search for Jobs, an independent, blind study conducted by Zeldis Research Associates, Inc.



ADVANCING CARE. ENHANCING LIVES.

Physician Opportunities

Western Massachusetts

Baystate Health (BH) is western Massachusetts' premier healthcare provider and home to the University of Massachusetts Medical School - Baystate. The cornerstone of our organization is Baystate Medical Center, a 716-bed tertiary care hospital which boasts the state's single busiest emergency department and the region's only Level-I trauma center. With 3 community hospitals, Baystate Children's Hospital and Baystate Primary Care Medical Practices, we offer a diverse culture that provides outstanding opportunities for physicians to start or advance their career.

Baystate Health was named one of America's Best employers by State in 2019 by Forbes. Ranked 14th out of 74 top employers in Massachusetts, Baystate Health is one of New England's leading healthcare systems and the largest employer in the region.



Current Opportunities Include:

- ☑ Primary Care - Internal Medicine, Med/Peds & Family Medicine
- ☑ Gastroenterology
- ☑ Heart Failure
- ☑ Hospital Medicine
- ☑ Emergency Medicine
- ☑ Gynecology Oncology
- ☑ Geriatrics
- ☑ General Pediatrics - Academic
- ☑ Palliative Care
- ☑ Pediatric Gastroenterology
- ☑ Endocrinology
- ☑ Breast Surgery
- ☑ Peri-Operative Medicine

Baystate Health is an Equal Opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, marital status, national origin, ancestry, age, genetic information, disability, or protected veteran status.

Are you ready to advance your career with us?

Visit Us Online at: choosebaystatehealth.org
Or Call Us At: 413-794-2571

ChooseBaystateHealth.org





RESIDENTS & FELLOWS

Find your future at Banner Health.

The journey to become a doctor is hard enough. Residency training in 2020 magnified just how tough it can be. Banner Health, based in Arizona with practice options in six western states, has set itself apart as a leader in the communities we serve:

- Established COVID-19 tool kits and best practices for communication, shared with other organizations
- Partnered with state officials and other hospital systems on COVID Surge strategies, ultimately balancing patient loads for all
- Banner Health has made a commitment to address physician well-being by launching a multi-year strategy aimed at mitigating burnout and cultivating happiness in medicine

We're GROWING!

Enjoy career development along several different paths. Now hiring in these specialties:

**HOSPITALISTS | PRIMARY CARE | NEUROLOGY
GASTROENTEROLOGY | OB/GYN | & MANY OTHERS**

Banner Health's total compensation package includes:

- Competitive salary base plus incentives
- Relocation Assistance & Sign-On Bonuses
- Paid CME days with allowance
- Fully paid malpractice
- Two retirement savings plans
- Physician mortgage program, federal credit union and discount programs
- Our locations qualify for federal loan forgiveness

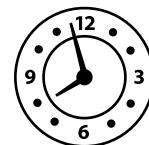
Join our Provider Talent Network! Register using our job portal: PracticeWithUs.BannerHealth.com

Banner Health values and celebrates equity, diversity and inclusion by promoting and cultivating a culturally-rich workforce.

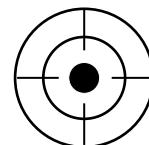
At the end of the day, **this** is where you want to be.



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Timely



Targeted



Trusted

Find your next *locum tenens* assignment today!

Visit NEJMCareerCenter.org.



Dedham Medical Associates, Granite Medical Group,
Harvard Vanguard Medical Associates,
PMG Physician Associates and VNA Care Network & Hospice

Atrius Health is a well-established, Boston based, physician led, nonprofit healthcare organization and for over 50 years, we have been nationally recognized for transforming healthcare through clinical innovations and quality improvement.

At Atrius Health we are working together to develop and share best practices to coordinate and improve the care delivered in our communities throughout eastern Massachusetts. We are a teaching affiliate of Harvard Medical School/Tufts University School of Medicine and offer both teaching and research opportunities.

Our physicians enjoy close clinical relationships, superior staffing resources, minimal call, a fully integrated EMR (Epic), excellent salaries and an exceptional benefits package.

We have openings in the following specialties:

Leadership

- Chair of Behavioral Health
- Chief of Geriatrics and Palliative Care Programs
- Chief of Hematology Oncology
- Chief of Urgent Care - Plymouth
- Medical Director/Primary Care - Chelmsford
- Medical Director/Primary Care - Quincy

Clinical Staff

- Adult and Child Psychiatry
- Adult & Pediatric Weekend Urgent Care Moonlighting Opportunities
- Dermatology
- Gastroenterology
- Hematology/Oncology
- Non Invasive Cardiology
- OB/GYN
- Outpatient Primary Care - Internal Medicine and Family Medicine
- Palliative Care
- Pediatrics

Visit our website at <https://atriushealthproviders.org>, or send confidential CV to:
Laura Schofield, 275 Grove Street, Suite 3-300, Newton, MA 02466-2275
E-mail: Laura_Schofield@atriushealth.org



PHYSICIAN OPPORTUNITIES AVAILABLE

JOIN THE HEALTHCARE TEAM AT
BERKSHIRE HEALTH SYSTEMS!

We understand the importance of balancing work with quality of life.

- The Berkshires, a 4-season resort community, offers world renowned music, art, theater, and museums
- Year round recreational activities from skiing to kayaking
- Excellent public and private schools make this an ideal family location
- Just 2 ½ hours from both Boston and New York City

Berkshire Health Systems currently has hospital-based opportunities in

- Primary Care
- Neurology
- Hematology/Oncology
- Cardiology
- Trauma Surgery
- Vascular Surgery

This is an excellent opportunity to join a dynamic team committed to providing exceptional truly patient- and community-centered care in Berkshire County within an environment where you will be challenged, supported, and respected.

Berkshire Medical Center, BHS's 302-bed community teaching hospital, is a major teaching affiliate of the University of Massachusetts Medical School. With the latest technology and a system-wide electronic health record, BHS is the region's leading provider of comprehensive healthcare services.

This is a great opportunity to practice in a beautiful and culturally rich area while being affiliated with a health system with award winning programs. For more information, please contact:

Shelly Sweet, Physician Recruitment, Berkshire Health Systems, 725 North St., Pittsfield, MA, (413) 395-7866
or email us at msweet@bhs1.org. Applications accepted online at www.berkshirehealthsystems.org

Beth Israel Lahey Health 
Mount Auburn Hospital

Mount Auburn Hospital, a Harvard teaching hospital, seeks a ABP board-certified/ eligible neonatologist to work with a physician team which provides 24-hour coverage for the 2500 annual births. The core job is defined as 1500 hours per year divided into days (9 hours), nights (15 hours) and weekends (24 hours) shifts per year to meet the clinical needs of the unit.

The current Level IIA unit (34 + week gestation) is being renovated the summer/fall of 2020 with plans to transition to a Level IIB unit (32+ week gestation). Level III time is available through our Beth-Israel Lahey Health network partner at Beth Israel Deaconess Medical Center's NICU.

Competitive salary and benefits, including 1 week of CME and 4 weeks of vacation.

Women and minorities are particularly encouraged to apply.

Please forward current CV to:

janet.dacosta@mah.org

Deputy Editor
The New England Journal of Medicine

The Massachusetts Medical Society is seeking a Deputy Editor to join our editorial team at the *New England Journal of Medicine*. The Deputy Editor, reporting directly to the Editor-in-Chief, will be responsible for reviewing, selecting, and editing manuscripts for the NEJM as well as participating in planning the content of each issue. He or she will also ensure that the best available research is submitted to the NEJM, identify potential NEJM contributors, and invite submissions as appropriate.

To apply, visit deputyeditor.nejm.org



The NEW ENGLAND
JOURNAL of MEDICINE

The *New England Journal of Medicine* is a publication of NEJM Group, a division of the Massachusetts Medical Society (MMS). The MMS is an Equal Opportunity/Affirmative Action employer. We have a long-standing commitment to actively supporting and promoting a policy of non-discrimination and equal employment opportunity for all employees and qualified applicants without regard to race, color, sex, age, religion, national origin or ancestry, disability, genetic traits or information, sexual preference or orientation, gender identity, marital status, protected veteran status, or any other classification protected by applicable state or federal law.

Where Quality of Life and Quality of Care Come Together



Berkshire Health Systems
Physician Opportunities

Berkshire Health Systems currently has hospital-based and private practice opportunities in the following areas:

- ✦ Cardiology ✦ CRNA ✦ Endocrinology ✦ Gastroenterology
- ✦ Hematology/Oncology ✦ Primary Care
- ✦ Trauma Surgery and Vascular Surgery

Berkshire Medical Center, BHS's 302-bed community teaching hospital, is a major teaching affiliate of the University of Massachusetts Medical School. With the latest technology and a system-wide electronic health record, BHS is the region's leading provider of comprehensive healthcare services.

We understand the importance of balancing work with quality of life. The Berkshires, a 4-season resort community, offers world renowned music, art, theater, and museums, as well as year round recreational activities from skiing to kayaking. Excellent public and private schools make this an ideal family location, just 2 1/2 hours from both Boston and New York City.

This is a great opportunity to practice in a beautiful and culturally rich area while being affiliated with a health system with award winning programs, nationally recognized physicians, and world class technology.

Interested candidates are invited to contact:

Shelly Sweet or Liz Mahan, Physician Recruitment
Berkshire Health Systems
(413) 395-7866; mdrecruitment@bhs1.org, or
Apply online at: www.berkshirehealthsystems.org



PHYSICIAN
CAREERS AT
The US Oncology
Network

The US Oncology Network brings the expertise of nearly 1,000 oncologists to fight for approximately 750,000 cancer patients each year. Delivering cutting-edge technology and advanced, evidence-based care to communities across the nation, we believe that together is a better way to fight.
usonology.com.

To learn more about physician jobs, email
physicianrecruiting@usonology.com



The US Oncology Network is supported by McKesson Specialty Health.
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By now, doctors know California Correctional Health Care Services (CCHCS) offers more than just great pay and State of California benefits. Whatever your professional interest, CCHCS can help you continue to hone your skills in public health, disease management and education, addiction medicine, and so much more. All without the burdens of battling insurance companies or unrealistic RVUs.

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\$282,216 - \$296,328
(Time-Limited Board Certified)

PHYSICIANS IM/FP
\$268,080 - \$281,496
(Lifetime Board Certified)

PHYSICIANS IM/FP
\$253,992 - \$266,700
(Pre-Board Certified)

*PHYSICIANS IM/FP
\$324,540 - \$340,776
(Time-Limited Board Certified)

*PHYSICIANS IM/FP
\$308,292 - \$323,712
(Lifetime Board Certified)

*PHYSICIANS IM/FP
\$292,080 - \$306,696
(Pre-Board Certified)

JOIN DOCTORS JUST LIKE YOU IN ONE OF THESE LOCATIONS:

- California State Prison, Sacramento - Represa*
- Salinas Valley State Prison (Psychiatric Inpatient Program) - Soledad*
- Sierra Conservation Center - Jamestown

* Doctors at these institutions receive 15% additional pay.

CCHCS OFFERS A COMPETITIVE COMPENSATION PACKAGE, INCLUDING:

- 40-hour workweek (affords you true work-life balance)
- Generous paid time off and holiday schedule
- State of California retirement that vests in 5 years (visit CalPERS.ca.gov for retirement formulas)
- Robust 401(k) and 457 savings plans (tax defer up to \$39,000 - \$52,000 per year)
- Paid Insurance, license, and DEA renewal
- Paid CME, with paid time off to attend
- And much more

Contact Danny Richardson at CentralizedHiringUnit@cdcr.ca.gov
or (916) 691-3155. To apply online, visit www.cchcs.ca.gov.

Effective July 1, 2020, in response to the economic crisis caused by the COVID-19 pandemic, the Personal Leave Program 2020 (PLP 2020) was implemented. PLP 2020 requires that each full-time employee receive a 9.23 percent reduction in pay in exchange for 16 hours PLP 2020 leave credits monthly through June 2022.



EOE



TELEPSYCHIATRISTS

\$266,844 - \$320,640
annual salary (Board Certified)

\$260,004 - \$311,592
annual salary (Board Eligible)

FIND YOUR CAREER BALANCE
IN CALIFORNIA

California Correctional Health Care Services is seeking dedicated and compassionate professionals, like you, to join our telepsychiatry team. We offer some of the most advanced technologies available in a clean, comfortable, quiet atmosphere. If you are ready to practice within a special program where you can help change lives, while maintaining the balance in your own, consider joining one of our office-based teams.

Locations:

- Diamond Bar
- Rancho Cucamonga
- Santa Ana

In return for your efforts, we offer:

- 40-hour workweek with flexible schedules (affords you true work-life balance)
- Generous paid time off and holiday schedule
- 401(k) and 457 plans (tax defer up to \$39,000 - \$52,000 per year)
- State of California retirement that vests in five years (visit www.CalPERS.ca.gov for retirement formulas)
- \$10,000 Thank You Bonus to professionals newly hired with the State of California
- Relocation assistance available to professionals newly hired with the State of California
- Paid insurance, license, and DEA renewal
- Visa sponsorship opportunities

Take the first step in joining one of our teams and contact Blair Eversley at (916) 538-3948 or CentralizedHiringUnit@cdcr.ca.gov. You may also apply online at www.cchcs.ca.gov.

Effective July 1, 2020, in response to the economic crisis caused by the COVID-19 pandemic, the Personal Leave Program 2020 (PLP 2020) was implemented. PLP 2020 requires that each full-time employee receive a 9.23 percent reduction in pay in exchange for 16 hours PLP 2020 leave credits monthly through June 2022.

EOE

Primary Care Opportunities
 Cambridge Health Alliance (CHA)

Cambridge Health Alliance (CHA) is a well-respected, nationally recognized and award-winning public healthcare system, which receives recognition for our clinical and academic innovations. Our system is comprised of two hospital campuses, an urgent care clinic and an integrated network of both primary and specialty care practices in Cambridge, Somerville and Boston's Metro North Region. CHA is an academic affiliate of both Harvard Medical School (HMS) and Tufts University School of Medicine. Our practices serve an ethnically and socio-economically diverse patient population.

- Opportunities available for physicians specializing in **Family Medicine, Internal Medicine, and Med/Peds**
- Fully integrated EMR (Epic)
- Teaching opportunities and academic appointments available
- Competitive guaranteed base salary commensurate with experience
- Comprehensive, generous benefits package

Qualified candidates will be BE/BC and should share our passion for caring for our community and the underserved, multicultural patient population CHA serves. Incoming physicians will work with a collegial group of providers who share our mission and values.

Please visit www.CHAproviders.org to review our available opportunities and apply confidentially. Candidates may also submit CV confidentially to **Melissa Kelley** at ProviderRecruitment@challiance.org. CHA's Department of Provider Recruitment may be reached by phone at (617) 665-3555 or by fax at (617) 665-3553.

In keeping with federal, state and local laws, Cambridge Health Alliance (CHA) policy forbids employees and associates to discriminate against anyone based on race, religion, color, gender, age, marital status, national origin, sexual orientation, relationship identity or relationship structure, gender identity or expression, veteran status, disability or any other characteristic protected by law. We are committed to establishing and maintaining a workplace free of discrimination. We are fully committed to equal employment opportunity. We will not tolerate unlawful discrimination in the recruitment, hiring, termination, promotion, salary treatment or any other condition of employment or career development. Furthermore, we will not tolerate the use of discriminatory slurs, or other remarks, jokes or conduct, that in the judgment of CHA, encourage or permit an offensive or hostile work environment.



ASSISTANT/ASSOCIATE DIRECTOR
Blood Transfusion Service



Massachusetts General Hospital, Harvard Medical School

The Blood Transfusion Service at the Massachusetts General Hospital seeks a full-time, early- or mid-career, academically oriented transfusion medicine physician. The successful candidate will combine clinical and teaching activities with a research program in a field relevant to transfusion medicine, hematology or hemostasis.

Our service encompasses an FDA-licensed donor center, therapeutic apheresis, an outpatient transfusion/infusion clinic, a transfusion service, and progenitor cell collection and processing. We collaborate closely with clinical colleagues in bone marrow and solid organ transplantation, CAR-T cell therapy, cardiac surgery, trauma and critical care, neurology, and pediatrics. Service and teaching responsibilities will be shared with three other full and part-time staff physicians. Candidates must be BC/BE in Transfusion Medicine, with primary training in either Pathology or Hematology/Oncology (adult or pediatrics). Academic rank and salary will be based on experience and accomplishments

Please send a curriculum vitae and a description of interest to:

Robert Makar, MD, PhD
GRJ148, Massachusetts General Hospital
55 Fruit Street, Boston, MA 02114-2696
or email to rmakar@mgh.harvard.edu

The Massachusetts General Hospital is an equal opportunity/affirmative action employer.

An inclusive Presence

Diversity at SSM Health is the foundation of who we are.

In 1872, our founding sisters committed themselves to providing care for anyone who needed it, regardless of their race, ethnicity, gender, or social stature. In 1933, they boldly opened the first Catholic hospital for African Americans in the nation, and today, as SSM Health, we continue to celebrate diversity, equity, and inclusion.



Our hospitals and patients benefit from having physicians and advanced practice providers of various races, ethnicities, and experiences brought together to deliver exceptional health care day in and day out.

Join our Mission and be a part of a lasting legacy of purpose and healing for all.

Visit JoinSSMHealth.com to learn more.



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ColumbiaDoctors at **NewYork-Presbyterian** is hiring Academic General Internists as part of our primary care expansion in Manhattan and Westchester County.

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- Part of New York's #1 hospital system

Interested candidates should forward CV to: Delia Saraceno, Physician Recruiter, NewYork - Presbyterian, Des9819@nyp.org



Where work and life balance.



At UHealth, we coined the phrase, "Work hard. Play hard." Here, we provide personalized care at the highest level, offering some of the most innovative procedures, advanced treatments and medical technologies in the nation. Then, life seamlessly transitions from work to play in the Rocky Mountain region.

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physician.careers@uhealth.org



New York Cancer and Blood Specialists, a prominent and respected hematology/oncology group, is seeking medical professionals to join its well-established and growing pure sub-specialty practice with academic affiliation. Practice manages a freestanding outpatient 7-day/week cancer center with extensive chemotherapy administration, radiation oncology and research department.

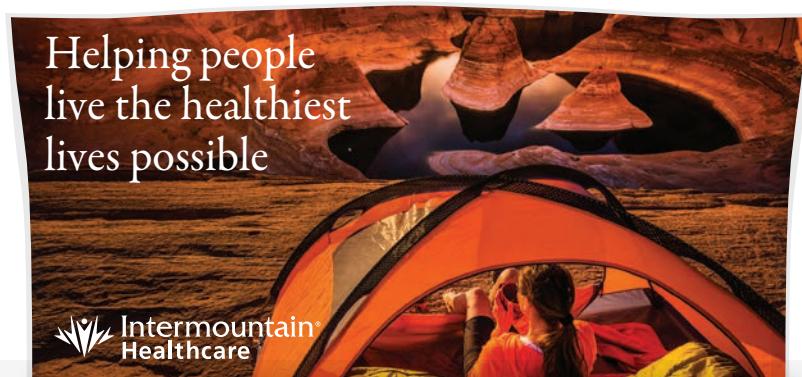
We currently have excellent opportunities the following positions throughout New York City & Suffolk County

- **Oncologist/Hematologists**
- **Rheumatologists**
- **Radiation Oncologists**
- **Nephrologists**
- **Urologists**
- **Neurologists**

We offer a competitive salary and benefits.

Please email or send C.V. to:
Robert Nicoletti, Chief Human Resources Officer
Email: rnicoletti@nycancer.com
 New York Cancer and Blood Specialists
 1500 Route 112, Building 4 – First Floor, Port Jefferson Station, NY 11776

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- UNLESS OTHERWISE SPECIFIED, VISA SPONSORSHIP NOT AVAILABLE

TOP REASONS TO CHOOSE THE INTERMOUNTAIN WEST:

- World-Class Skiing, Hiking, and Biking • Incredible National Parks
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physicianrecruit@imail.org | 800.888.3134 | PhysicianJobsIntermountain.org

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EXCITING PHYSICIAN OPPORTUNITIES NEAR BOSTON, MA



Explore the latest innovations in healthcare with North Shore Physicians Group—the largest multi-specialty physician group north of Boston. As a physician-led organization, we respect your insights, voice and vision. We're always seeking new ways to improve the patient-provider relationship and to make the practice of medicine smarter, less stressful and more efficient. Here ideas come from everyone—to the benefit of every patient.

We are seeking physicians to provide new thinking and expand our practice capabilities in the following specialties:

- Cardiology
- Family Medicine
- Hospitalist and Nocturnist
- Pediatric Emergency Medicine
- Pulmonary/Critical Care/Sleep Medicine
- Emergency Medicine
- Gastroenterology
- Internal Medicine
- Psychiatry
- Urology

While practicing at North Shore Physicians Group, you'll enjoy:

- the stability provided by our membership in the Mass General Brigham health care system
- an integrated care model that promotes innovation, collaboration and team-based care
- opportunities to teach residents
- clear pathways to pursue leadership positions and advance your career
- respect for your contributions and input and a culture that supports our practitioner's ability to find a healthy balance of work and life
- ideal practice locations north of Boston, offering excellent schools, higher education, cultural experiences and an overall outstanding quality of life

WE'RE A BEACON OF NEW THINKING IN INTEGRATED MEDICINE. **JOIN US.**

To apply or learn more about our physician opportunities, email your CV and letter of interest to **Michele Gorham** at mgorham@partners.org

www.joinnspg.org/NEJMResFellow/Careers



MASSACHUSETTS MEDICAL SOCIETY



8-MODULE SERIES

Work Is Medicine — Strategies for Improving Functional Outcomes

COURSE OVERVIEW

Most physicians caring for adults are asked at some point to make decisions about the work status of their patients. But few are taught much about this topic in medical training, including the health impact of these decisions. This new, engaging online case-based course will teach you the importance of including work recommendations in your patient-centered treatment plan. It will also equip you with the tools for discussing these decisions with patients. Using guided, simulated conversations, you will have a chance to practice talking with patients about their work issues. There are eight modules in this course, each takes 15 to 30 minutes to complete, offering up to 3.5 CME credits. The modules can be taken in any order.

Accreditation Statement

The Massachusetts Medical Society is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

AMA Credit Designation Statement

The Massachusetts Medical Society designates this internet enduring material for a maximum of 3.5 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This activity meets the criteria for the Massachusetts Board of Registration in Medicine for risk management study.

To register: massmed.org/workismedicine

This course is offered by the Massachusetts Medical Society and endorsed by the New England College of Occupational and Environmental Medicine.



PRIMARY CARE PHYSICIAN WANTED!!

Northeastern Vermont Regional Hospital is proud to offer you the chance to enhance your passion and live your dreams in an encouraging & supportive environment!

We are currently recruiting **PRIMARY CARE PHYSICIANS** in **Family Medicine** to join our hospital-owned group. New grads are welcome and encouraged to apply. **NO nights or weekends!**

Excellent specialty support - Urology, Women's Health, Neurology, Cardiology, Orthopaedics just to name a few!

NVRH offers a competitive salary and a generous benefits package including student loan reimbursement, 401K, relocation reimbursement, CME, medical/dental/vision, membership to local gyms, and more!

Please contact Heather Spinney:

802-748-7312

h.spinney@nvrh.org

for further information

***Also recruiting for other positions – please visit our website at www.nvrh.org**



In alliance with



Heart, Vascular and Thoracic Institute

DIRECTOR, CARDIAC CATHETERIZATION LABORATORY IN BERGEN COUNTY, NJ

The Valley Health System is seeking an experienced and forward-thinking board-certified/board-eligible interventional cardiologist to join its robust Heart and Vascular Institute as the Director of the Cardiac Catheterization Lab. The Director of the Cardiac Catheterization Laboratory will lead the Health System's vision to develop and maintain a Cardiac Cath Lab that is recognized for delivering high quality care across a broad service line. The Director will be responsible for the development of a vision for interventional cardiology that ensures that Valley is ahead of the curve in adopting evidence-based, clinically relevant procedures and technologies that meet the needs of the broad community that we serve.

Distinguished by its culture of excellence and its talented medical staff, Valley has a long tradition of outstanding, patient-centered care. Valley's Heart and Vascular Institute has been affiliated with Cleveland Clinic's Heart, Vascular and Thoracic Institute since 2015. *U.S. News & World Report* has ranked the Cleveland Clinic #1 in the nation for heart care since 1995. Valley offers unique clinical programs to our patients, as well as extensive educational and research opportunities for its providers.

To meet the growing needs of our community, Valley plans to open a new, state-of-the-art hospital in 2023, in Paramus NJ. We offer a supportive, collegial environment, and a generous income and benefits package. Bergen County is one of the most desirable counties in the United States, with excellent schools, numerous recreational and cultural activities and proximity to NYC. This is an extraordinary opportunity for a compassionate, dedicated and forward-thinking interventional cardiologist to grow and excel, as part of a premier cardiology practice.

Applicants should submit a letter of interest and a CV to:

Gerald Sotsky, MD, Chair, Cardiovascular Services
sotsge@valleyhealth.com



Affiliated with the University of Pittsburgh School of Medicine

Chief, Division of Hematology Oncology, UPMC Hillman Cancer Center, Department of Medicine, Pittsburgh, PA

The UPMC Hillman Cancer Center (HCC) and Department of Medicine, part of the University of Pittsburgh and UPMC, seek a transformative leader to serve as Chief of the Division of Hematology/Oncology ("Division") and Professor of Medicine with tenure. An Endowed Chair is also available for the qualified candidate. The successful candidate will lead the division of Hematology/Oncology and build on the excellence of our 66 member faculty, representing 16 specialties, in meeting our clinical, educational and research missions. The UPMC Hillman Cancer Center treats over 41,000 new adult and pediatric cancer cases annually. It is the academic and research hub within the expansive UPMC HCC network of 71 clinical sites, 28 of which participate in over 500 cancer clinical trials across Western PA, including the primary research sites in Pittsburgh (UPMC Shadyside, UPMC Presbyterian, UPMC Children's Hospital of Pittsburgh, UPMC Magee-Womens Hospital).

With over 300 members from across the University of Pittsburgh, the Hillman Cancer Center comprises 7 research programs in basic, translational, clinical, and population sciences, 12 shared resources that receive funding from our NCI Cancer Center Support Grant (<https://hillmanresearch.upmc.edu/research/>) and a funding base exceeding \$125 million. In 2019, the University of Pittsburgh ranked #6 in overall NIH funding, and the UPMC HCC scored in the Exceptional range on its recently renewed NCI P30 CCSG. The Division also houses an NCI T32 grant, and newly renewed UM1/U24 phase I grants and NCTN LAPS UG1 grants. Newly initiated collaborative integration of activities between HCC and the NSABP, based in Pittsburgh, provide exciting opportunities for driving clinical research in breast and GI cancers.

We seek a demonstrated and innovative leader with Hematology/Oncology leadership experience in a division, program and/or institute of an NCI-designated comprehensive center, with a proven track record of success in the role. **The successful candidate will:**

- Be recognized as a leader and innovator in the field of medical oncology.
- Be an established independent investigator with interdisciplinary NCI-funded translational research.
- Have a proven track record of managing clinical trials as a PI and clinical trials operations at an institutional level.
- Have a long-standing track record of significant publications and extramural grant funding.
- Have a strong record in management, teaching and mentoring graduate students, postdoctoral fellows and junior faculty members.
- Have outstanding communication and interpersonal skills.

Position Responsibilities

- Recruit nationally recognized leaders in medical oncology and translational cancer research.
- Develop innovative approaches to cancer research and treatment.
- With the UPMC Hillman Cancer Center Director and senior leadership, advance and implement the Hillman Cancer Center strategic plan and integrate with that of the Division of Hematology/Oncology.
- Direct overall faculty management of the Division by expanding and enhancing clinical research programs, integrating and coordinating care delivery throughout the Division and across the health system, and assessing the feasibility of new programs, products, and services.
- Facilitate extensive collaborations with departments in the school of medicine and other disciplines across the university and cancer center is expected.
- Develop and implement programmatic goals for the Division, including leading and managing performance improvement activities.
- Monitor critical clinical success factors for the Division, including financial indicators, customer satisfaction, quality, and compliance with goals.
- Monitor faculty productivity with respect to research, publications, peer-reviewed extramural funding, and active participation in enrolling patients to clinical trials.
- Serve as key contact point for faculty issues related to the Division by regularly interacting and communicating with Hillman Cancer Center senior leadership, clinical and research leadership, physician clinical and research operations, system quality improvement and other service and department leaders.
- Establish, coordinate, and maintain an organizational structure which promotes multi-disciplinary collaborative practices, participatory involvement, innovation, fiscal accountability, strategic planning and development, outcome-focused goal setting, adequate and effective resource allocation, community involvement, and customer service.
- Develop, implement, and evaluate programs to promote the recruitment, retention, professional development, scholarly activity and continuing education of Division faculty.
- Serve as mentor to clinicians and researchers of all stages in Division when appropriate.
- Oversee the development of the Division's annual academic operating budget, develop cost containment strategies and monitor the disbursements and generation of funds in the Division on an ongoing basis.
- Participate in Hillman Cancer Center and Department of Medicine research and clinical activities, residency and fellowship training, and participate in tumor boards.

Required Qualifications

- MD or equivalent degree from an accredited professional school.
- Board certified in Medical Oncology and eligible to obtain a license to practice medicine in PA.
- Qualifications to achieve Professor with tenure academic rank at the University of Pittsburgh.
- Five (5) or more years contributing to leadership of clinical operations with a successful track record demonstrating increased strategic responsibility in a complex, academic healthcare organization
- Leadership roles in professional organizations.
- Strong communication, organizational and interpersonal skills.
- Demonstrated ability to build strong, sustainable partnering relationships.
- Demonstrated experience working with and fostering a diverse faculty, staff, and trainee environment or commitment to do so as a faculty member.

Located in the city of Pittsburgh (routinely ranked as one of the top most livable and affordable U.S. cities), the Hillman Cancer Center (previously known as the University of Pittsburgh Cancer Institute) is an exceptionally rated, NCI-designated Comprehensive Cancer Center serving a catchment area of 29 Western Pennsylvania counties that provides unique opportunities to collaborate with clinical and translational research programs involved in cancer patient care.

To apply for this position, please send a cover letter and your curriculum vitae to Hillman Director, Robert L. Ferris, MD, PhD, care of thompsonla3@upmc.edu. Please reference "Division Chief" in your application. Applications will be reviewed on an ongoing basis until the position is filled, following the receipt of all required materials. *The University of Pittsburgh is an Affirmative Action/ Equal Opportunity Employer and values equality of opportunity, human dignity and diversity, EOE, including disability/vets.*

Robert L. Ferris, MD, PhD
Director, UPMC Hillman Cancer Center
c/o Lola Thompson, 5150 Centre Avenue, Suite 500
Pittsburgh, PA 15232
412-623-3205



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上海嘉会国际医院

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- Family Medicine
- Radiation Oncology
- Emergency Medicine

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- Diversified culture with professional colleagues from different nationalities.
- Abundant opportunities and resources to advance in your chosen area of expertise.
- Respect from leadership team to your contributions and progress.
- Energetic and collaborative team atmosphere and work-life balance.
- Considerable support including relocation, family's education and accommodation.
- Convenient lifestyle in first-class community with international neighborhoods.

If you are interested in our opportunities, please contact and send your CV and cover letter to Michelle Liu at clinical.careers@jiahui.com



SHANGHAI NINTH PEOPLE'S HOSPITAL SHANGHAI JIAO TONG UNIVERSITY SCHOOL OF MEDICINE

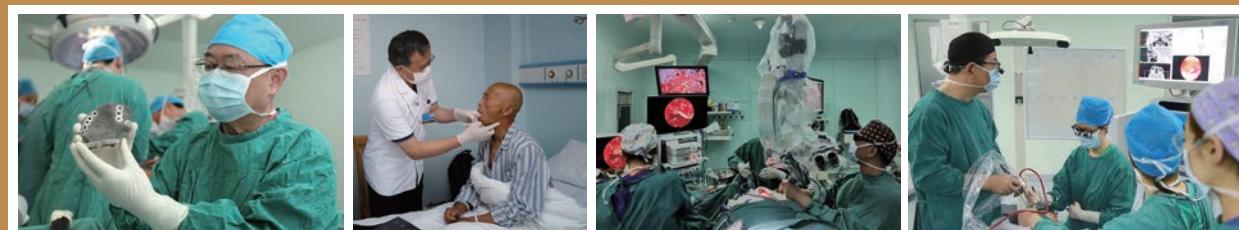
Overview

The Shanghai Ninth People's Hospital (SNPH), affiliated with the Shanghai Jiao Tong University School of Medicine, was established in 1920. One of the first grade A general hospitals in China, the SNPH is widely recognized for its distinctive specialties and innovative competitiveness in clinical medicine.

Occupying a total land area of 82,667 m² and built-up area of 242,000 m² in three campuses — the South Campus in Huangpu, the North Campus in Baoshan and the East Campus in Pudong — the SNPH has 2,150 beds, 1,000 dental chairs, 52 clinical departments, 10 medical laboratories and more than 5,000 employees, including 132 MD or PhD supervisors and 180 MSc supervisors, who are responsible for 3 postdoctoral training centers, 26 doctoral programs and 31 master programs. In 2019, there were 4.58 million emergency outpatient visits, 170,000 outpatient and 100,000 inpatient surgical operations, and 130,000 hospitalizations with an average length of stay of 5.8 days at the SNPH.

Clinical Research

The SNPH has four members of the prestigious Chinese Academy of Engineering: Zhang Disheng, plastic surgeon; Qiu Weiliu, oral and maxillofacial surgeon; Dai Kerong, orthopedic surgeon; and Zhang Zhiyuan, oral/maxillofacial tumor and head/neck tumor expert. The SNPH ranked 9th in the 2019 Chinese Hospital Science and Technology Evaluation Metrics, with plastic and reconstructive surgery, stomatology, otolaryngology, and ophthalmology occupying the top 10 in the specialty list. Stomatology, orthopedics, oculoplastic and ocular tumor surgery, and auricular base surgery are also preeminent in China. Moreover, Department of Plastic and Reconstructive Surgery is one of the largest reconstructive surgical centers in the world.



Key Achievements

Tissue Regeneration and Bone

A multi-disciplinary orthopedic team of physicians and engineers, led by Prof. Dai Kerong, made breakthroughs in orthopedic implants with shape memory and personalized implants by 3D printing that have been widely used in orthopedic surgeries.

Prof. Cao Yilin team achieved great advances in tissue regeneration technologies in bone, cartilage, tendon, and skin, with some technologies already in clinical practice.

After more than 20 years of research, Prof. Zhang Chenping team revolutionized the jaw functional reconstruction, a previously unsolved problem, with a "four segment" strategy. By creating the "integrated" implant distraction technology and a digital surgical platform, they further solidified their top global status in the jaw reconstruction.

Visual and Auditory Functions

By elucidating mechanisms of auditory damage by acoustic neuroma, Prof. Wu Hao greatly advanced the audiological science. His team also established the technique and strategy for hearing reconstruction and intraoperative hearing preservation, improving the auditory functions of acoustic neuroma patients after surgery.

A pioneer of the precision orbital surgery, Prof. Fan Xianqun and his team developed biodegradable materials and created an orbital reconstruction system, significantly im-

proving the safety and efficacy of orbital surgery. The team also characterized mechanisms of eye tumorigenesis, and improved survival rate and eye salvage rate of ocular tumor patients.

Maxillofacial Surgery and Facial Reconstruction

Prof. Li Qingfeng team put forward the concept of "tissue prefabrication", and effectively treated complex facial deformities, by implementing a comprehensive strategy of flap prefabrication, stem cell-assisted skin regeneration, and facial organ prelamination.

Breaking many "forbidden zones", Prof. Zhang Zhiyuan team was the first in the world to successfully apply a multi-pronged approach, including minimum invasive surgery, CAD/CAM, traction osteogenesis, carotid artery reconstruction and laryngeal reconstruction in oral and maxillofacial tumor operation, improving the operation success rate and patient survival. In addition, Prof. Zhang is the leading international expert in treating arteriovenous malformations by using double interventional embolization combined with surgery.

Mission and Vision

Learning knowledge diligently and pursuing excellence relentlessly with an open mind, the SNPH is growing ever stronger. All SNPH employees strive to provide the best service to patients and make concerted efforts to develop SNPH into a comprehensive research hospital with distinctive specialties and global impact.

CONTACT INFORMATION

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Website: www.9hospital.com.cn



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