SOCIAL HISTORY Although the social history taken by physicians is often limited to inquiries about a patient's alcohol and tobacco use, a complete social history can offer a number of clues to the underlying diagnosis. Knowing whether the patient has any high-risk behaviors (e.g., unsafe sexual behaviors, IV drug use), potential hobby-associated exposures (e.g., avid gardening, with possible *Sporothrix schenckii* exposure), or occupational exposures (e.g., increased risk for *M. tuberculosis* exposure in funeral service workers) can facilitate diagnosis. The importance of the social history is exemplified by a case in 2009 in which a laboratory researcher died of a *Yersinia pestis* infection acquired during his work; although this patient had visited both an outpatient clinic and an emergency department, his records at both sites failed to include his occupation—information that potentially could have led quickly to appropriate treatment and infection control measures.

DIETARY HABITS As certain pathogens are associated with specific dietary habits, inquiring about a patient's diet can provide insight into possible exposures. For example, Shiga toxin–producing strains of *Escherichia coli* and *Toxoplasma gondii* are associated with the consumption of raw or undercooked meat; *Salmonella typhimurium*, *Listeria monocytogenes*, and *Mycobacterium bovis* with unpasteurized milk; *Leptospira* species, parasites, and enteric bacteria with unpurified water; and *Vibrio* species, norovirus, helminths, and protozoa with raw seafood.

ANIMAL EXPOSURES Because animals are often important vectors of infectious diseases, patients should be asked about exposures to any animals, including contact with their own pets, visits to petting zoos, or random encounters (e.g., home rodent infestation). For example, dogs can carry ticks that serve as agents for the transmission of several infectious diseases, including Lyme disease, Rocky Mountain spotted fever, and ehrlichiosis. Cats are associated with *Bartonella henselae* infection, reptiles with *Salmonella* infection, rodents with leptospirosis, and rabbits with tularemia (Chap. 167e).

TRAVEL HISTORY Attention should be paid to both international and domestic travel. Fever in a patient who has recently returned from abroad significantly broadens the differential diagnosis (Chap. 149); even a remote history of international travel may reflect patients' exposure to infections with pathogens such as *M. tuberculosis* or *Strongyloides stercoralis*. Similarly, domestic travel may have exposed patients to pathogens that are not normally found in their local environment and therefore may not routinely be considered in the differential diagnosis. For example, a patient who has recently visited California or Martha's Vineyard may have been exposed to *Coccidioides immitis* or *Francisella tularensis*, respectively. Beyond simply identifying locations that a patient may have visited, the physician needs to delve deeper to learn what kinds of activities and behaviors the patient engaged in during travel (e.g., the types of food and sources of water consumed, freshwater swimming, animal exposures) and whether the patient had the necessary immunizations and/or took the necessary prophylactic medications prior to travel; these additional exposures, which the patient may not think to report without specific prompting, are as important as exposures during a patient's routine daily living.

Host-Specific Factors Because many opportunistic infections (e.g., with *Pneumocystis jirovecii*, *Aspergillus* species, or JC virus) affect only immunocompromised patients, it is of vital importance to determine the immune status of the patient. Defects in the immune system may be due to an underlying disease (e.g., malignancy, HIV infection, malnutrition), a medication (e.g., chemotherapy, glucocorticoids, monoclonal antibodies to components of the immune system), a treatment modality (e.g., total body irradiation, splenectomy), or a primary immunodeficiency. The type of infection for which the patient is at increased risk varies with the specific type of immune defect (Chap. 375e). In concert with determining whether a patient is immunocompromised for any reason, the physician should review the immunization record to ensure that the patient is adequately protected against vaccine-preventable diseases (Chap. 148).

PHYSICAL EXAMINATION

Similar to the history, a thorough physical examination is crucial in evaluating patients with an infectious disease. Some elements of the physical exam (e.g., skin, lymphatics) that are often performed in a cursory manner as a result of the ever-increasing pace of medical practice may help identify the underlying diagnosis. Moreover, serial exams are critical since new findings may appear as the illness progresses. A description of all the elements of a physical exam is beyond the scope of this chapter, but the following components have particular relevance to infectious diseases.

Vital Signs Given that elevations in temperature are often a hallmark of infection, paying close attention to the temperature may be of value in diagnosing an infectious disease. The idea that 37°C (98.6°F) is the normal human body temperature dates back to the nineteenth century and was initially based on axillary measurements. Rectal temperatures more accurately reflect the core body temperature and are 0.4°C (0.7°F) and 0.8°C (1.4°F) higher than oral and axillary temperatures, respectively. Although the definition of fever varies greatly throughout the medical literature, the most common definition, which is based on studies defining fever of unknown origin (Chap. 26), uses a temperature ≥38.3°C (101°F). Although fever is very commonly associated with infection, it is also documented in many other diseases (Chap. 23). For every 1°C (1.8°F) increase in core temperature, the heart rate typically rises by 15–20 beats/min. Table 144-1 lists infections that are associated with relative bradycardia (*Faget's sign*), where patients have a lower heart rate than might be expected for a given body temperature. Although this pulse-temperature dissociation is not highly sensitive or specific for establishing a diagnosis, it is potentially useful in low-resource settings given its ready availability and simplicity.

Lymphatics There are ~600 lymph nodes throughout the body, and infections are an important cause of lymphadenopathy. A physical examination should include evaluation of lymph nodes in multiple

TABLE 144-1 CAUSES OF RELATIVE BRADYCARDIA

Infectious Causes	
Intracellular organisms	
Gram-negative bacteria	*Salmonella typhi*
	Francisella tularensis
	Brucella spp.
	Coxiella burnetii (Q fever)
	Leptospira interrogans
	Legionella pneumophila
	Mycoplasma pneumoniae
Tick-borne organisms	*Rickettsia* spp.
	Orientia tsutsugamushi (scrub typhus)
	Babesia spp.
Other	*Corynebacterium diphtheriae*
	Plasmodium spp. (malaria)
Viruses/viral infections	Yellow fever virus
	Dengue virus
	Viral hemorrhagic fevers[a]
	Viral myocarditis
Noninfectious Causes	
	Drug fever
	Beta blocker use
	Central nervous system lesions
	Malignant lymphoma
	Factitious fever

[a]Primarily early in the course of infection with Marburg or Ebola virus.