I was introduced to tick-borne diseases a quarter of a century ago when I was a medical student at the University of Maryland. Dr. Theodore E. Woodward, my mentor during those years, wrote the rickettsial diseases sections in Harrison’s textbook of medicine for many editions. His enthusiasm for medicine in general and Rocky Mountain spotted fever (RMSF) in particular must have rubbed off on me. Since medical school, after having moved to an area where RMSF is quite uncommon, I have not personally diagnosed a case of spotted fever but the interest in tick-borne diseases stuck. Several years later, when a relative of mine was among the first diagnosed with Lyme arthritis, my interest in these diseases was rekindled. I began following the fascinating medical detective story of Lyme disease since its inception.

The clinical field of tick-borne diseases has evolved considerably over the last quarter century. At one point, the more common problems related to ticks were diseases that most practitioners would never see during their medical careers. This has changed dramatically over time. Partly because of increased recognition, partly because of evolving habitats of deer and ticks and our encroachment on their territory, we have come to recognize an increasing number of tick-borne pathogens and cases of the diseases they cause. This is especially true of Lyme disease, which was not even in the textbooks when I studied under Dr. Woodward but is now the most common vector-borne disease in North America. Also, patients with babesiosis and ehrlichiosis are being diagnosed with increasing frequency.

Some of the tick-borne diseases—RMSF, babesiosis and ehrlichiosis—can lead to severe morbidity and mortality. Others, if not treated early—such as Lyme disease—can lead to later, more difficult to treat problems. Therefore it is incumbent upon the front line physician to know when to suspect, how to diagnose and treat these diseases.

I am an emergency physician. Like internists and other front line physicians, I see patients who present with a great variety of complaints. Physicians must be alert in patients seeking care for rashes, facial palsy, oligoarticular arthritis, heart block, paralysis and encephalopathy, meningitis and other syndromes. Especially during “tick season”, one must consider these diagnoses in many of
these patients. Just as importantly, some patients must be treated empirically based solely on the epidemiological context, history and physical examination, especially those presenting with a nonspecific febrile illness, with or without a rash.

Biologically, ticks are capable of playing host to a wide range of infectious organisms from many classes and toxins. The list of tick-borne diseases in North America is shown below:

Tick-borne diseases of North America

1. Lyme disease
2. Rocky Mountain spotted fever
3. Ehrlichiosis—(several species)
4. Babesiosis
5. Relapsing fever
6. Q fever
7. Tularemia
8.Colorado tick fever
9. Tick paralysis
10. Tick associated encephalitis?
11. Likely others not yet established as tick-borne pathogens - ? Bartonella

It is my hope that this issue of *Medical Clinics of North America* will help physicians to better recognize these patients, understand the use and limitations of diagnostic tests and know when and how to treat these patients. Articles cover not only the list of organisms, with several articles devoted to the most common—Lyme disease, but also some general information about tick biology and prevention of tick-borne diseases.

Some of these areas have become controversial. In particular, chronic Lyme disease has engendered a great deal of debate. The reader could reach different conclusions depending on who authored that article. I purposely asked Dr. Sam Donta, an infectious diseases specialist with broad experience, to cover this topic as he views this topic from a less traditional perspective than some other physicians. Much of the mainstream viewpoint is discussed in many other articles in the medical literature, but I think the reader will be rewarded by at least being aware of the counterpoint in this controversial area.

In addition, true world-class experts in their respective fields have written many of these articles. I would like to thank each of them for taking the time to do so, and the editorial staff at W. B. Saunders for stewarding this process along.

If the knowledge contained in this issue of *Medical Clinics of North America* helps our patients get earlier correct diagnoses and receive correct treatment for any of these diseases, then it will have been a success.

JONATHAN A. EDLOW, MD
Guest Editor

Vice Chairman—Department of Emergency Medicine
Beth Israel Deaconess Medical Center
330 Brookline Avenue
Boston, MA 02215