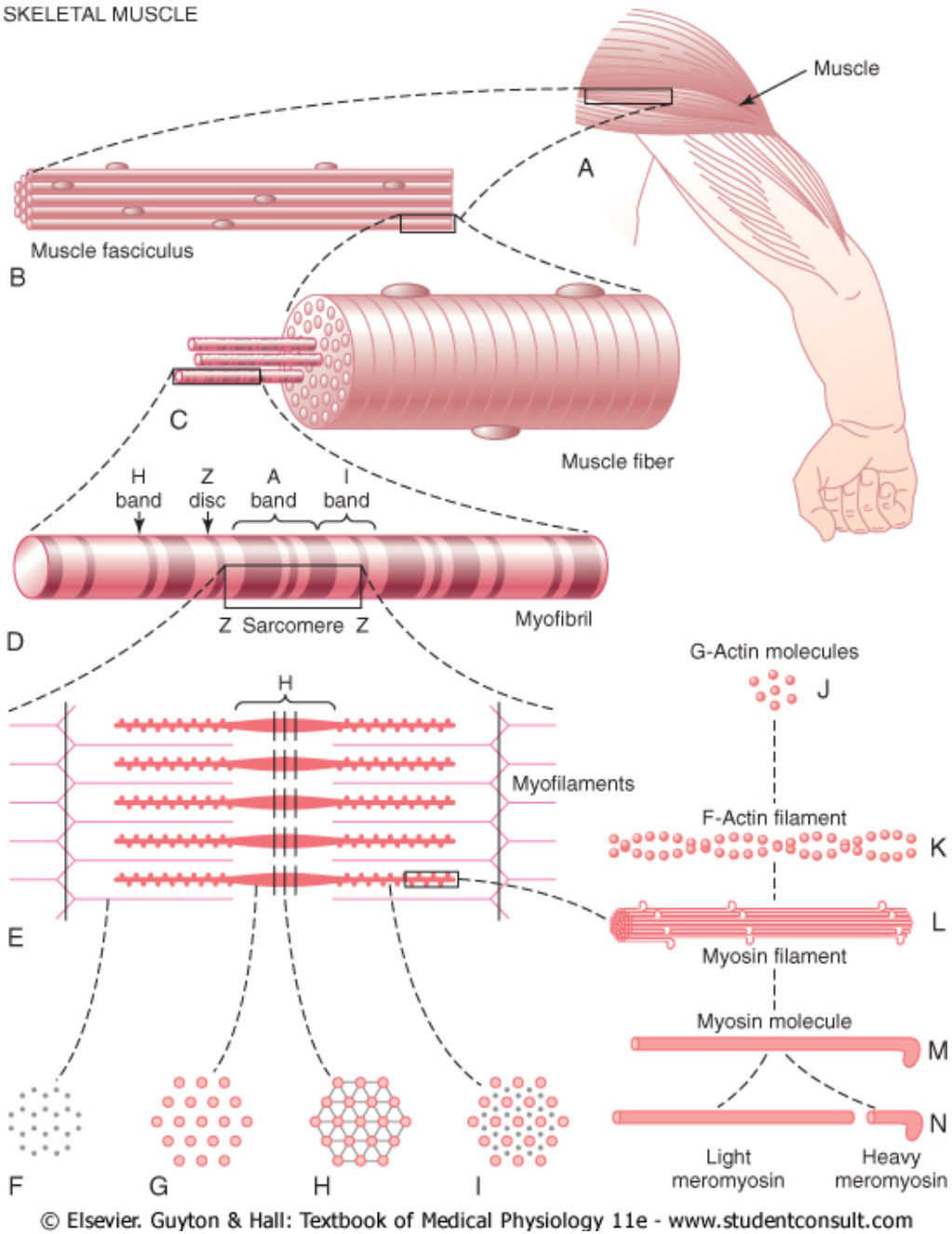
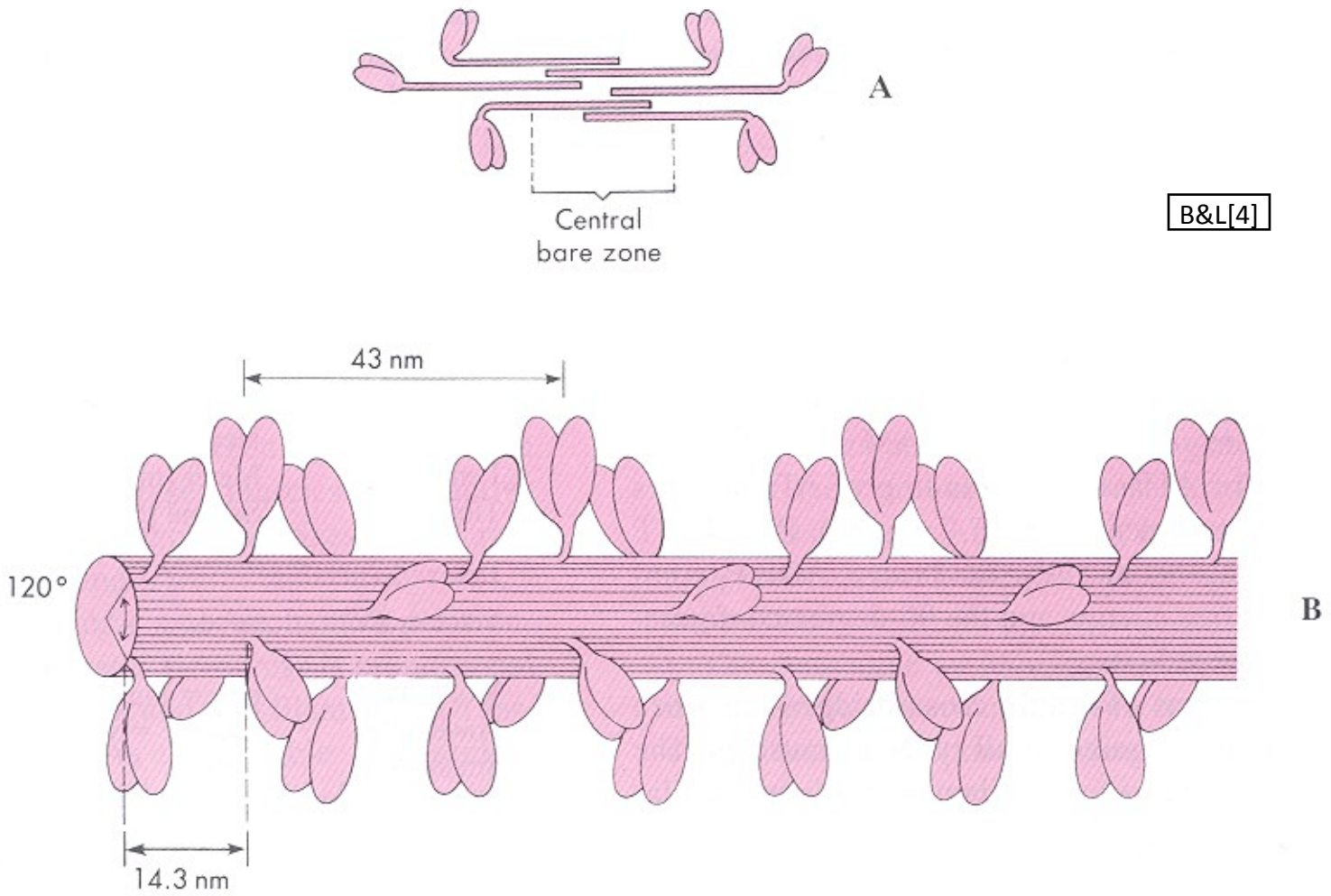


Figure 6-1 Organization of skeletal muscle, from the gross to the molecular level. F, G, H, and I are cross sections at the levels indicated. (Drawing by Sylvia Colard Keene. Modified from Fawcett DW: Bloom and Fawcett: A Textbook of Histology. Philadelphia: WB Saunders, 1986.)



B&L[4]

■ **Fig. 17-6** Proposed structure of the thick filament. **A,** Initiation of filament. Filament formation begins with an end-to-end association of the tails of myosin molecules. **B,** Segment of filament. "Crowns" of three cross-bridges project at intervals of 14.3 nm along the thick filament, and successive crowns are rotated. The result is a thick filament with rows of cross-bridges projecting toward the surrounding lattice of thin filaments. The core titin molecule is not illustrated. (Redrawn from Murray JM, Weber A: *Sci Am* 230:58, 1974.)

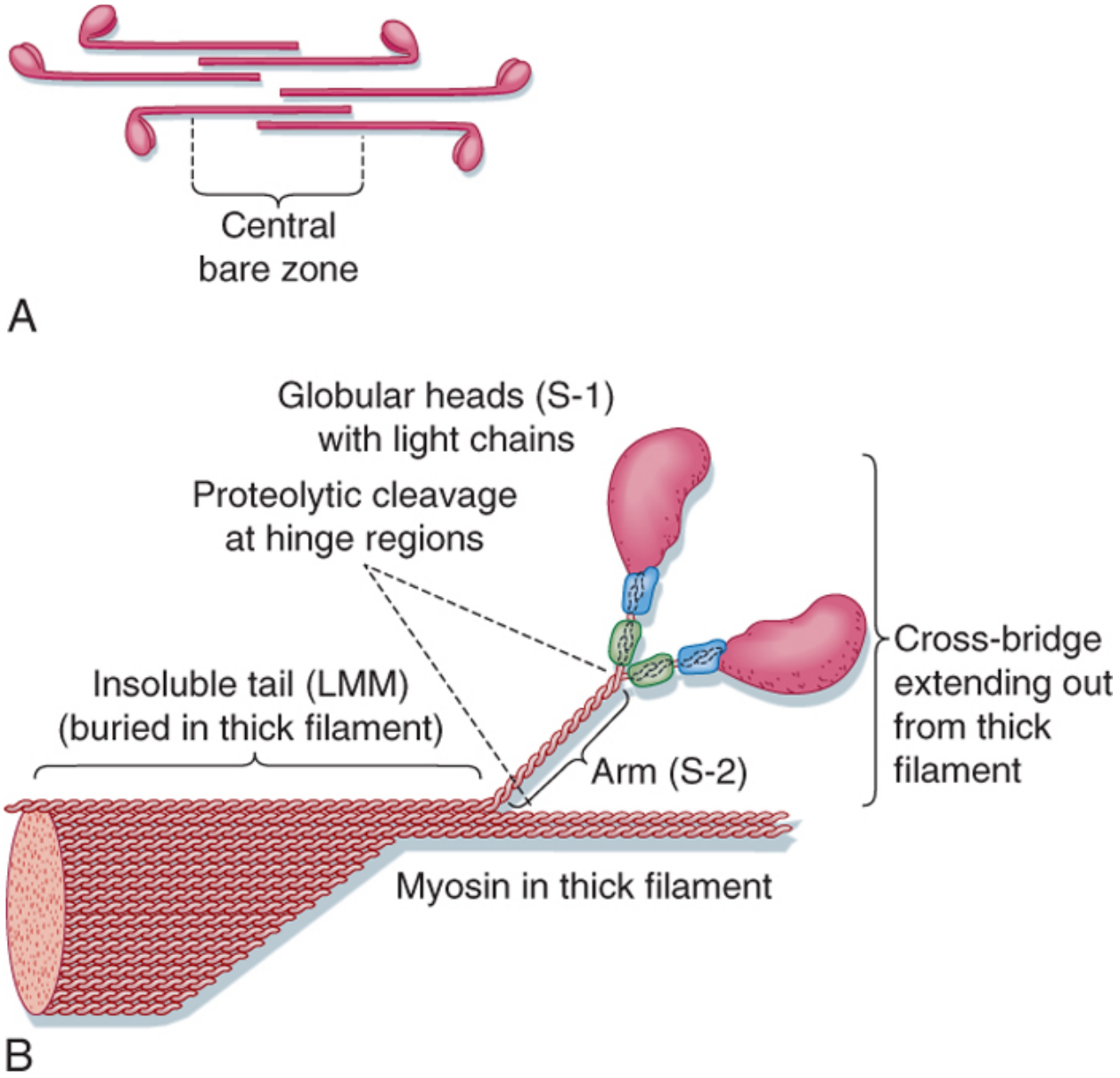


Figure 12-6 Organization of a thick filament. A thick filament is formed by the polymerization of myosin molecules in a tail-to-tail configuration extending from the center of the sarcomere (A). An individual myosin molecule has a tail region and a cross-bridge region. The cross-bridge region is composed of an arm and globular heads (B). The globular heads contain light chains that are important for the function of myosin ATPase activity.

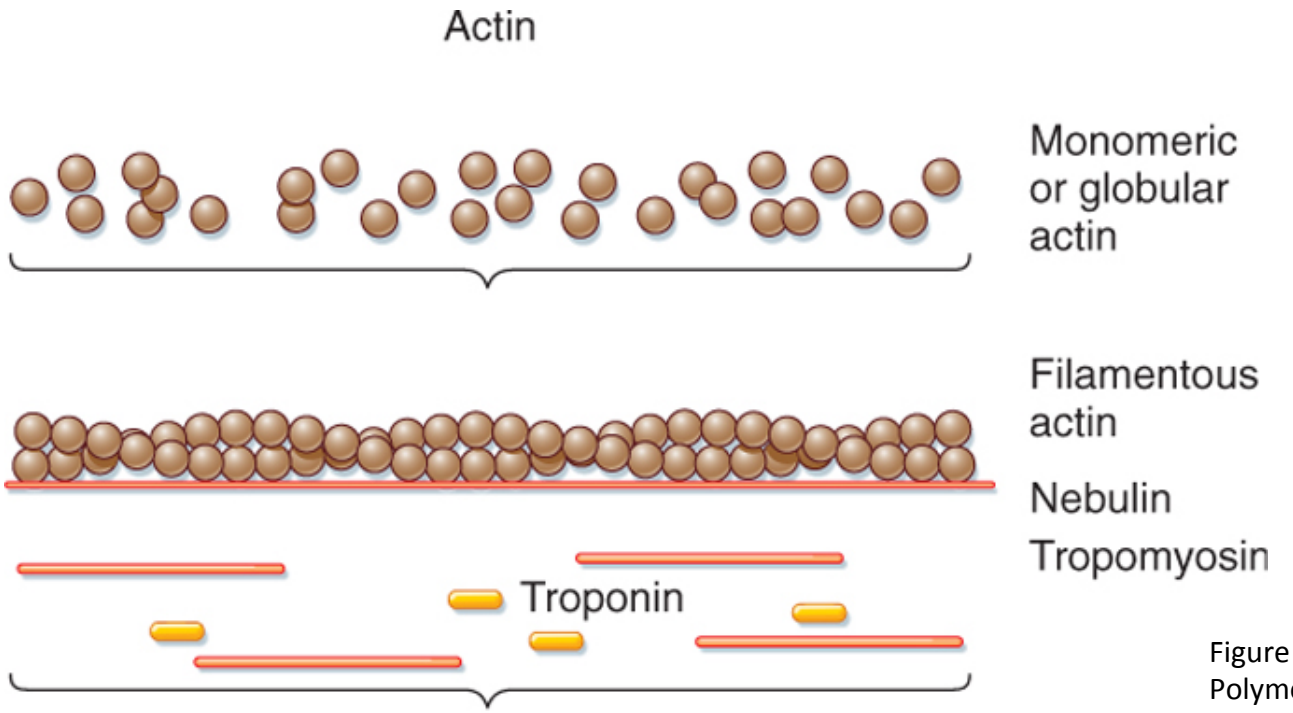
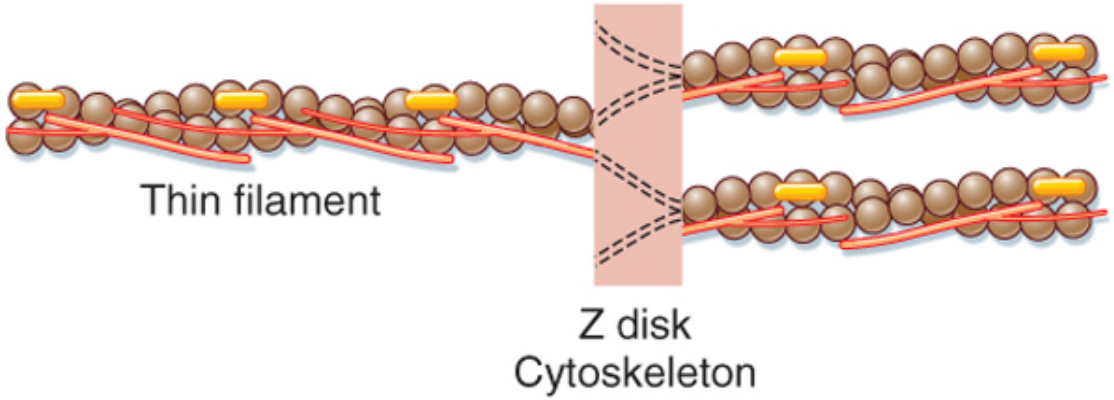


Figure 12-5 Organization of a thin filament. Polymerization of monomeric actin into filamentous actin forms the backbone of the thin filament. The filament contains several other structural/regulatory proteins such as nebulin, tropomyosin, and troponin.



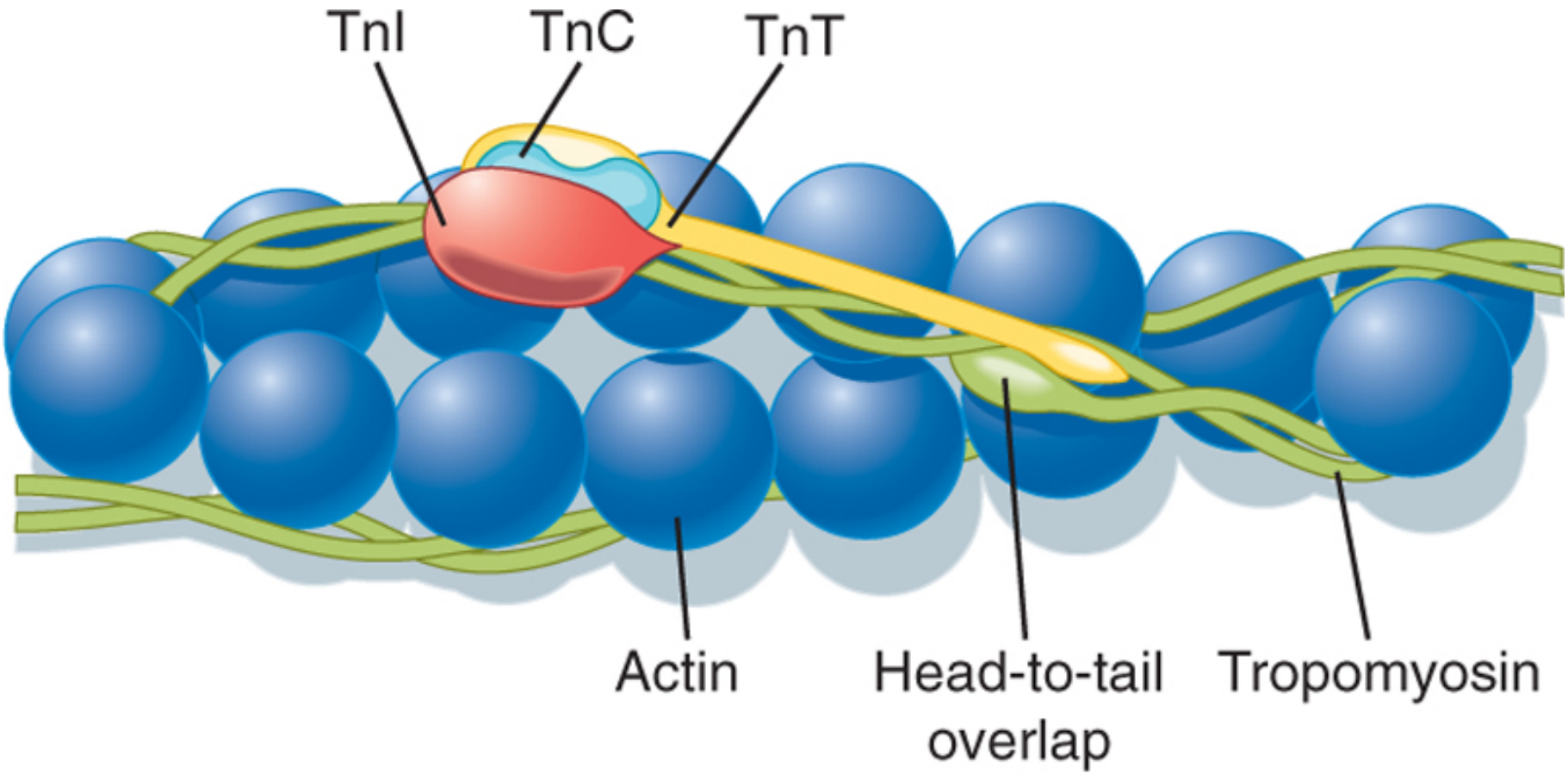
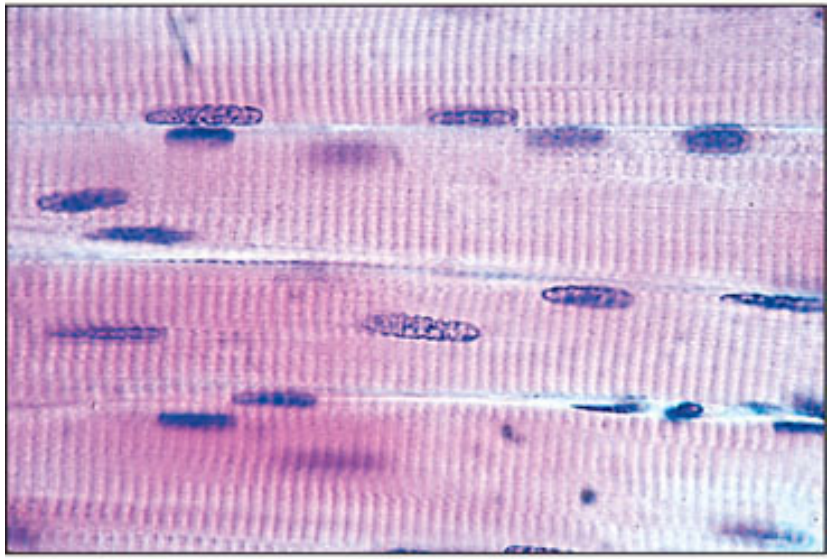
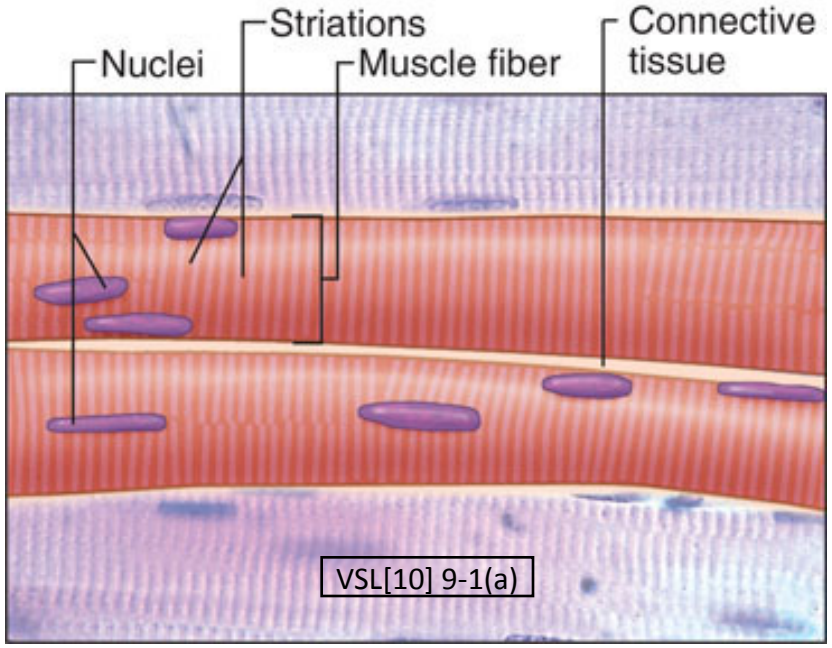
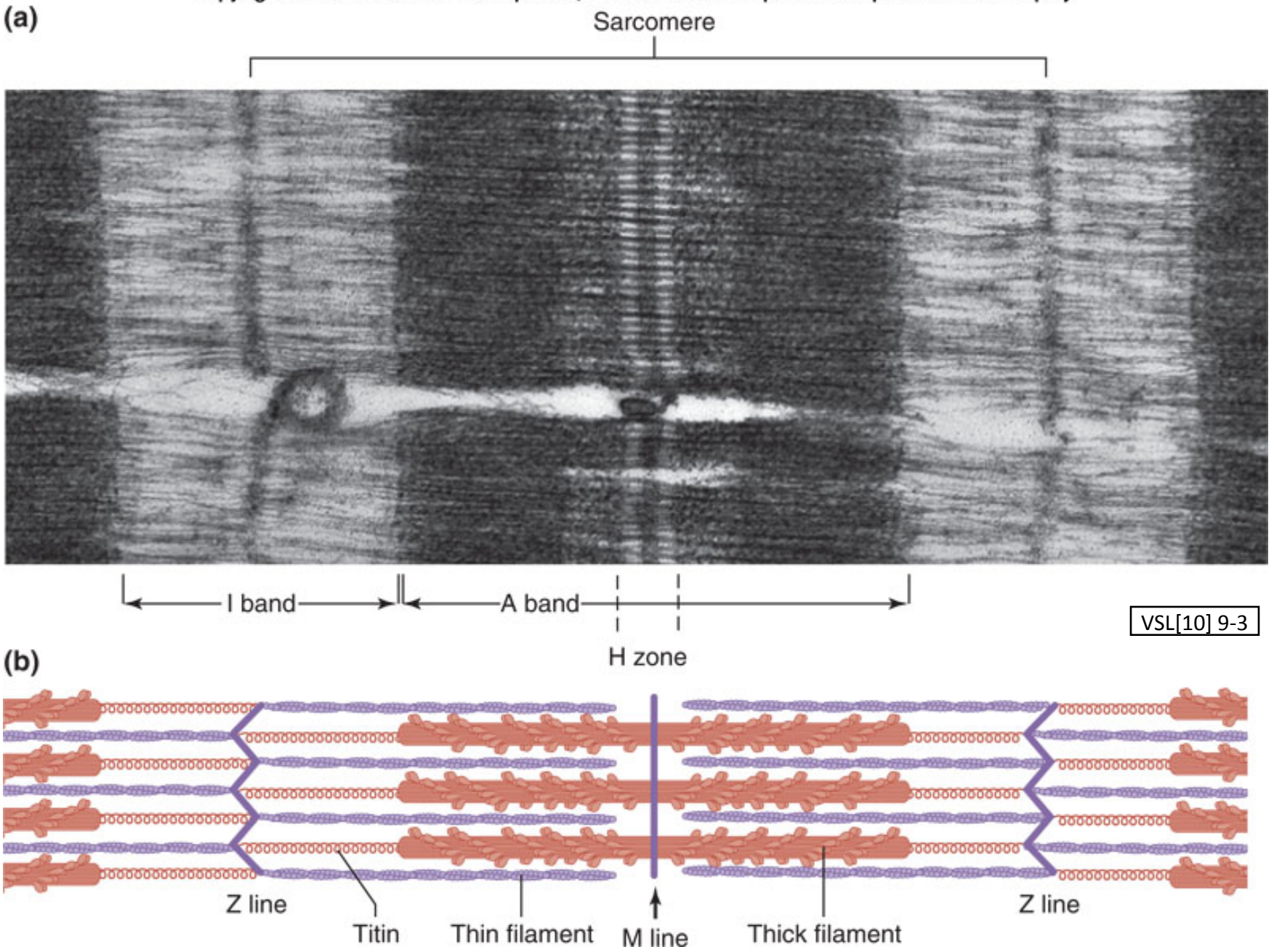


Figure 12-12 Organization of the thin filament showing a double-helical array of tropomyosin on the actin filament, with sequential tropomyosin molecules arranged in a head-to-tail configuration. Such a configuration may promote the interaction of one tropomyosin unit with an adjacent tropomyosin. Also shown is the troponin complex consisting of its three subunits: troponin C (TnC), troponin I (TnI), and troponin T (TnT). See text for details. (From Gordon AM et al: Physiol Rev 80:853, 2000.)

(a) Skeletal muscle







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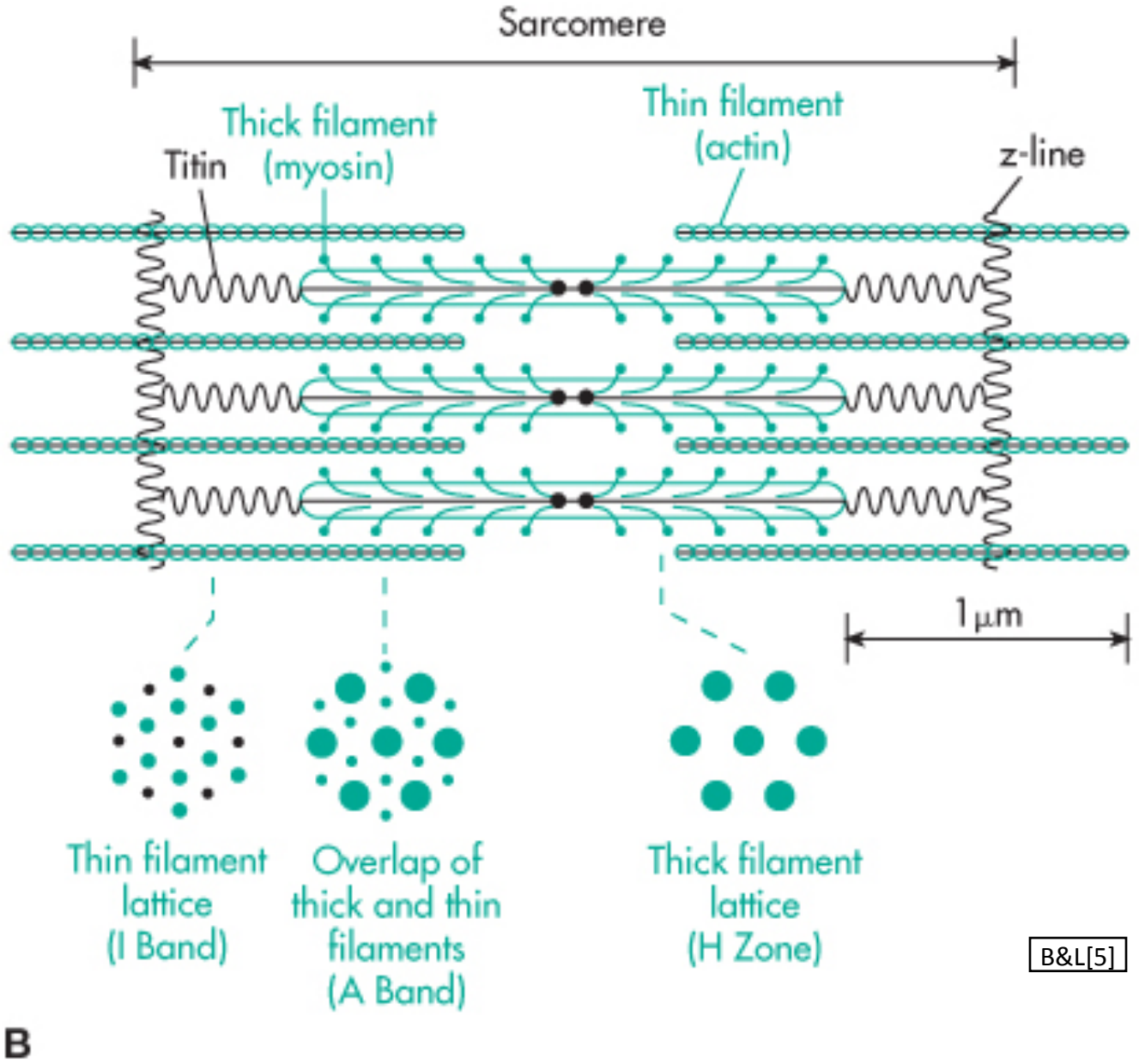

Figure 12-2 B, Organization of the proteins within a single sarcomere. The cross-sectional arrangement of the proteins is also illustrated

END

Video 2, Module 3