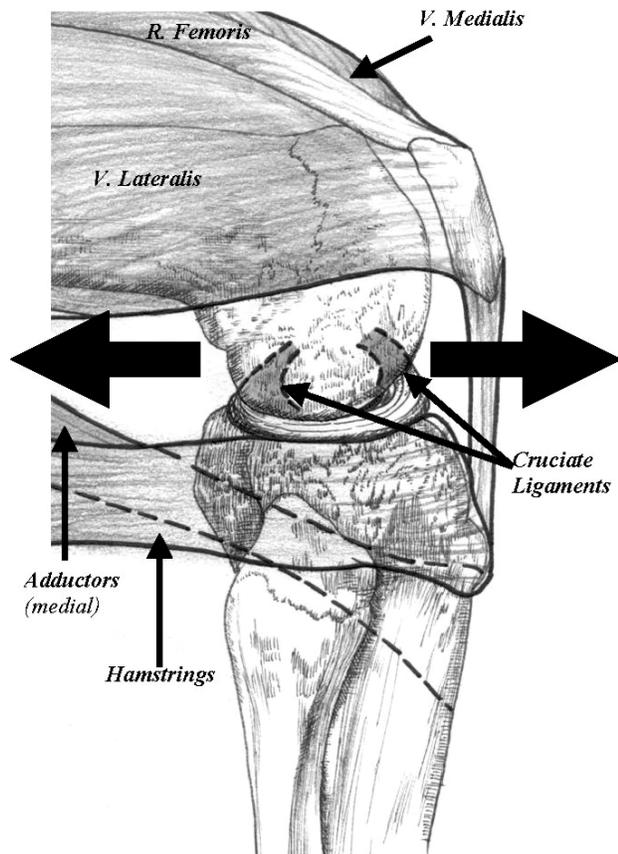


## Basic Barbell Training

getting strong (at least it should be), not in playing meaningless games with numbers. If it's too heavy to squat below parallel, it's too heavy to have on your back.



**Figure 2-5.** Forces on the knee in the squat. The hamstrings and adductors exert a posterior tension on the tibia, and the net effect of the anterior quadriceps tendon insertion is an anterior force against the tibial plateau. With sufficient depth, anterior and posterior forces on the knee are balanced. The anterior and posterior cruciate ligaments stabilize anterior and posterior movement of the distal femur relative to the tibial plateau. In the correct squat, these ligaments have very little to do.

### Learning to squat

The squat begins at the rack, or the squat stands, whichever is available. Set the rack height so that the bar in the rack is at about the level of your mid-sternum. Many will perceive this as too low, but it's better to be a little low taking the bar out of the rack than to have to tiptoe back into the rack with a heavy weight. Often the empty rack at this position will look low, because the

Olympic weightlifters provide a perfect illustration of the safety and benefits of the full squat. As of the 2004 Olympics 167 of the 192 countries in the world compete in Olympic Weightlifting. More than 10,000 individuals compete annually in IWF (International Weightlifting Federation) events alone, and the number of participants in total from the 167 countries would be staggering, likely on the order of 2 to 5 million (China alone boasts over 1 million lifters). All over the world, weightlifters squat way below parallel safely, most often using some form of the exercise, either back squats or front squats, every day. That is correct: they squat way below parallel every training day, and most programs call for six days per week. Isn't it fascinating that they are both strong and not under the care of an orthopedic surgeon?

There is simply no other exercise, and certainly no machine, that produces the level of central nervous system activity, improved balance and coordination, skeletal loading and bone density enhancement, muscular stimulation and growth, connective tissue stress and strength, psychological demand and toughness, and overall systemic conditioning than the correctly performed full squat. In the absence of an injury that prevents their being performed at all, everyone that lifts weights should learn to squat, correctly.