The following excerpt came from he journal Pediatrics, which is the official journal from the Acadamey of Pediatrics. It is a nice summary of appropriate weight training for adolescents and it contains the guidelines that I follow. The link to the full article is <http://pediatrics.aappublications.org/content/121/4/835.full>

When children or adolescents undertake a strength-training program, they should begin with low-resistance exercises until proper technique is perfected. When 8 to 15 repetitions can be performed, it is reasonable to add weight in 10% increments. Increasing the repetitions of lighter resistance may be performed to improve endurance strength of the muscles in preparation for repetitive-motion sports. Exercises should include all muscle groups, including the muscles of the core, and should be performed through the full range of motion at each joint. For achievement of gains in strength, workouts need to be at least 20 to 30 minutes long, take place 2 to 3 times per week, and continue to add weight or repetitions as strength improves. Strength training >4 times per week seems to have no additional benefit and may increase the risk for an overuse injury. Proper technique and strict supervision are mandatory for safety reasons and to reduce the risk for injury. Proper supervision is defined as an instructor-to-student ratio no more than 1:10 and an approved strength-training certification, as discussed in Table 2. Proper 10- to 15-minute warm-up and cool-down periods with appropriate stretching techniques also are recommended. Guidelines have been proposed by the AAP (as follows), the American Orthopaedic Society for Sports Medicine,38 and the National Strength and Conditioning Association.39,40

<http://well.blogs.nytimes.com/2010/11/24/phys-ed-the-benefits-of-weight-training-for-kids/>

<http://kidshealth.org/teen/food_fitness/exercise/strength_training.html>

<http://teens.webmd.com/strength-training-tips>

<http://www.urmc.rochester.edu/encyclopedia/content.aspx?ContentTypeID=1&ContentID=2381>