The outcome of occupational therapy intervention is “supporting health and participation in life through engagement in occupation” (American Occupational Therapy Association, 2008, p. 660). The types of occupational therapy interventions include occupational-based intervention, purposeful activity, preparatory methods, consultation, education, and advocacy (American Occupational Therapy Association, 2008). Intervention approaches are the strategies that direct the process of intervention, and these include create/promote, establish/restore, maintain, modify, and prevent disability.

The biomechanical approach is a remediation or restoration approach, and the intervention is designed to restore or establish client-level factors of structural stability, tissue integrity, range of motion (ROM), strength, and endurance. In particular, the focus is on performance skills, performance patterns, and client factors with the underlying belief that by establishing or restoring these factors, resumption of valued roles and successful participation in areas of occupation will be possible. In cases where full restoration is not possible or in degenerative conditions, the maintenance approach is used within the biomechanical approach to enable preservation of the client’s physical performance capabilities and slow declines in impairments and task abilities. A summary of the focus, assumptions, definition of function, expected outcomes, and techniques used in the biomechanical approach are shown in Table 11-1.

**Conceptual Background**

In selecting an intervention approach, remediation or restorative approaches are chosen when there is an expectation for significant reduction in the impairment that leads to prevention of further activity limitations and participation restrictions. It is assumed that resolution of physical impairments will reduce activity limitations and increase participation in areas of occupations. Intervention may involve learning new performance skills to maintain or improve the client’s quality of life (McGinnis, 1999).

The biomechanical approach is used to explain function using anatomical and physiological concepts with exercise physiology, kinetics, anatomy, and kinematics as the theoretical base (Trombly, 1995). Occupational therapists use their knowledge of activity analysis and apply it to understanding movement created by muscles, joints, and soft tissues and those circumstances that prevent or permit motion to occur (Pedretti, 1996). The biomechanical approach is a study of the relationship between musculoskeletal function and how the body is designed for and used in the performance of daily occupations. The effect, purpose, and meaning of engagement in these activities influence the client’s compliance, effort, fatigue, and improvement in movement capacity (Kielhofner, 1992).

**Assumptions**

The biomechanical approach assumes that the client has the capacity for voluntary control of the body (muscle control) and mind (motivation) (Trombly, 1995). It is anatomy and physiology that determine normal function, and humans are biomechanical beings whose range of motion (ROM), strength, and endurance have physiological and kinetic potential as well as role-relevant behaviors (Smith, Weiss, & Lehmkuhl, 1996). Humans are able to perform role-relevant behaviors most efficiently when they assume and maintain positions that are