

Table 9**SQL Data Control Language (DCL) Minimum Construct Set**

DCL Constructs	Justification
Granting, altering, and revoking Data Definition Language (DDL), Data Manipulation Language (DML), and Data Control Language (DCL) privileges	Views are essential for database security and integrity because they control data access rights and available features, for example, revoking all modifying privileges to a record when it is placed under a legal hold, or allowing researchers to have read-only access to records.
User- and role-based access controls	Two privilege control techniques. The first allows for individual management; the second allows for group management. Role-based management is common to allow uniform access based on job description. That is, a nurse will have the same privileges as other nurses. Thus a “nurse” role is created with privileges, and nurses are assigned to that role. In special cases, a user might have additional privileges attached specifically to the individual, that is, user-based privileges.
Views	One intent of a view is to control access to data; thus, it is also a DCL construct. For instance, Social Security numbers may be recorded in the Patients table, but because the Social Security number has nothing to do with treatment, a view is created without this attribute. Providers are then given access to the view instead of to the full Patients table, protecting the information. As stated in Table 7, an understanding of views is sufficient to allow greater focus on basic database interrogation.