A dynamical system (X, T) acting on a compact metric space X is called *n-rigid* if each n-tuple $(x_1, \ldots, x_n) \in X^n$ is a recurrent point of $T \times T \times \ldots \times T$; *weakly rigid* if (X, T) is n-rigid for each $n \in \mathbb{N}$; *uniformly rigid* if there is a sequence $m_i \to \infty$ such that $T^{m_i} \to id_X$ uniformly, where id_X is the identity map. Standard examples of uniformly rigid system are rotation of the unit circle, however there are many other more complicated examples. It is known that every minimal equicontinuous system is uniformly rigid and there are also known examples of minimal weakly mixing and uniformly rigid systems. On the other hand, there exist distal systems which are not uniformly rigid. In this talk we will present classical results on (various types of) rigidity and some more recent advances on relations between rigidity and other notions from topological dynamics, with main emphasis put on uniformly rigid case.