In this article, recursion relations for tree-level scattering amplitudes of $\mathcal{N} = 4$ super Yang-Mills theory are further investigated. Of particular focus is to present an alternative proof to the so-called Cachazo-Svrcek-Witten (CSW) rules which give a prescription to express tree amplitudes of arbitrary helicity configurations in terms of maximally helicity violating (MHV) vertices. The proof is given for the case of next-to-MHV (NMHV) amplitudes by use of induction for n-point amplitudes. Applications of the result to the calculation of loop amplitudes are also discussed. For example, motivated by the fact that the CSW rules are of direct relevance to the calculation of one-loop amplitudes in a unitary cut method, in this article, among other technical developments, it is shown that a generating function for the NMHV tree amplitudes can be used to evaluate unitary cuts of MHV- and NMHV-type amplitudes at the level of up to 4-loops.