Hear, see etc + object + infinitive without to

Most verbs of perception (e.g. hear, see, watch, notice) are followed by object + infinitive (without to).

I heard him cry. (NOT I heard him to cry.)

I watched them play. (NOT I watched them to play.)

I saw her cross the road. (NOT I saw her to cross the road.)

Most of these verbs can also be followed by -ing forms. Note that there is usually a difference of meaning. We use infinitive forms after these verbs to say that we hear or see the whole of an action or event. On the other hand, -ing forms suggest that we see or hear an action in progress.

Compare:

I once heard him give a talk on international politics. (I heard the whole talk.)
As I walked past his cabin, I heard him talking with his secretary. (I didn't hear the whole talk.)
An -ing form is not usually used to refer to a momentary action or event.

I saw the bomb explode. (NOT I saw the bomb exploding. The action mentioned here (explosion) doesn't last for more than a few moments.)

Sometimes an -ing form can suggest repetition.

I saw the children throwing stones at the dogs. (= The children kept throwing stones.) After can see and can hear, only the -ing form can be used.

I could see him climbing up the tree. (NOT I could see him climb up the tree.)