

Action Unit Combinations - 6+12, 7+12, 6+7+12

Chapter 2 presents the descriptions of AUs 6 and 7 and discusses the combination of 6+7 and how to differentiate these actions. The description of AU 12 in this chapter above points out the appearance changes that AUs 12 and 6 both can produce. This section examines the combinations of AUs 6 and 7 with AU 12 in greater detail. It is important to accurately detect whether AUs 6 and 7 are or are not combining with AU 12, and secondarily, if so, which AUs are combining. This section should help clarify these distinctions.

A. Appearance Changes due to 6+12, 7+12, and 6+7+12

AU 12



1. Pulls the corners of the lips back and upward (obliquely) creating a  shape to the mouth.
2. Deepens the nasolabial furrow, pulling it laterally and up. The skin adjacent to the nasolabial furrow is raised up and laterally.
3. In a weak to moderate 12, there is some raising of the infraorbital triangle and there may be some deepening of the infraorbital furrow.
4. In a strong action, one or more of the following:
 - a. The infraorbital triangle push upwards is more evident.
 - b. The infraorbital furrow deepening is more evident.
 - c. Bags the skin below the lower eyelid.
 - d. Narrows the eye aperture by pushing up the cheek and skin below the lower lid.
 - e. Produces crow's feet at eye corners.
 - f. May raise and widen the nostrils.
 - g. May flatten and stretch the skin on the chin boss.

AU 6

5. Draws skin towards the eye from the temple and cheeks as the outer band of muscle around the eye constricts.
6. Raises the infraorbital triangle, lifting the cheek upwards.
7. Pushes the skin surrounding the eye towards the eye socket, narrowing the eye aperture, bagging or wrinkling the skin below the eye, and pushing the eye cover fold down, wrinkling and/or changing its shape.
8. May cause crow's feet lines or wrinkles to appear, extending radially from the outer corners of the eye aperture.
9. Deepens the lower eyelid furrow.
10. May lower lateral portion of the eyebrows to a small extent.
11. A strong AU 6 may:
 - a. Make evident or deepen the nasolabial furrow.
 - b. Raise the outer portions of the upper lip to a small extent.
 - c. Make evident or deepen the infraorbital furrow, so that this wrinkle runs across the top of the infraorbital triangle in a straight or crescent-like shape.
12. If there is evidence of 6 on one side of the face and 7 on the other side, score it as a bilateral 6, unless you are scoring the asymmetry of 6 and 7.

AU 7

13. Tightens eyelids.
14. Narrows eye aperture.
15. May be more apparent in lower eyelid area than in upper eyelid.

16. Raises the lower lid so it covers more of the eyeball than is usually covered.
17. The raised lower lid may become more straight than curved in shape; or, just the medial portion inverted, e.g. from a  shape to an .
18. The raising of the skin below the lower eyelid causes a bulge to appear in the lower lid.
19. May cause the lower eyelid furrow to become evident as a line or wrinkle, or if the furrow is a permanent part of the face, it becomes deeper.
20. If AU 6 is evident on one side of the face and 7 on the other side, score bilateral 6.
21. When 7 is *maximum*, the appearance of a squint results.

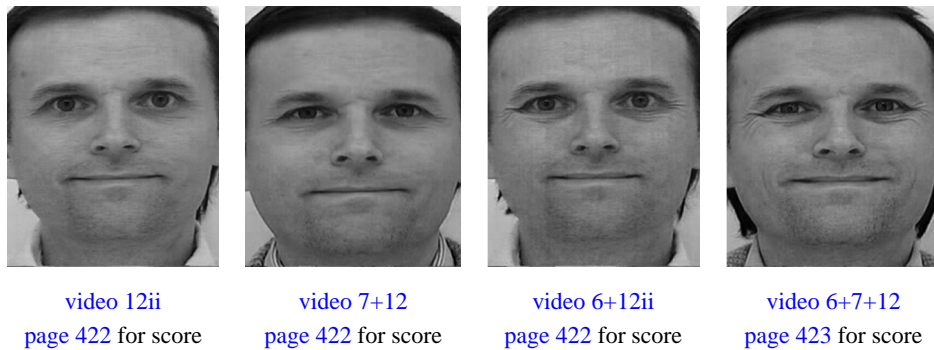
As previously mentioned in the description of AU 12, many of the same appearance changes around the eyes and upper infraorbital triangle can be produced by either AU 6 or 12. Both can raise the infraorbital triangle and lift the cheeks, deepen the infraorbital furrow, push the skin of the lower eyelid and below it up to form wrinkles and bags below the eye, narrow the eye aperture to a small degree, and cause crow's feet wrinkles at the eye corners. When the action of 12 is weak to moderate, it tends to produce fewer of the appearance changes in common with AU 6, making 6 easier to see when it acts. The stronger the action of 12, the more it hides the effects of 6 and makes the decision harder as to whether to score 6 with 12, especially when 6 is relatively less intense than 12.

As described in the section on AU 6, AUs 6 and 7 also share some appearance changes, and action of 6 can hide 7. Additionally, AU 12 can produce a few changes that are easy to confuse with those of AU 7. Both 7 and 12 can push or pull up skin in the lower eyelid area to cause wrinkling in the lower eyelid, possibly narrowing the eye aperture and changing the shape of the lower eyelid. Since it is important for interpreting the meaning of the behavior to determine whether 12 occurs alone or with 6 or 7 or both, you need to carefully study the clues for distinguishing these actions.

Examine the 12ii video, which shows 12 alone, and the 7+12 video, which shows the mostly additive combination of appearance changes produced by these two AUs. Notice that AU 12 alone raises the infraorbital triangle, deepens the infraorbital furrow, wrinkles skin below the eye, and pushes up the lower eyelid a *trace*, but the eyelid does not move up on the eyeball in this example. When AU 7 is added to 12, the lower eyelid is raised much more and moves up on the eyeball causing more wrinkling and bulging than in 12 alone, and the upper lid is somewhat lowered to add to the narrowing of the eye aperture. Also in the 12ii video, AU 12 alone just begins to show signs of forming crow's feet wrinkles at the top lateral corner of the infraorbital triangle. The crow's feet wrinkles caused by 12 form mostly at or beneath the corners of the eye. The addition of the 7 does not enhance these crow's feet, but does cause, on this person, crow's toes at the corners of the eyes as the eyelids are constricted together. Now look at the 6+12ii video and note how much more crow's feet appear due to the addition of AU 6, and that they extend above the corners of the eyes, particularly near the left eye on this person. Note how different the changes below the eye due to 6+12 are from either 12 alone or 7+12. The additional raising of the medial parts of the infraorbital triangle and the constriction around the eye caused by 6 produce much more bagging and wrinkling of the lower eyelid, but little more narrowing of the eye aperture, than in 12 alone because the lower lid does not get pushed up much more. The differences in the upper and lower eyelid between 6+12 and 7+12 are much the same as described in 6secA for AUs 6 versus 7 on [page 31](#). Note particularly that the lower eyelid is pulled up onto the eyeball by AU 7, while to a lesser extent, it is pushed up by AU 6, which produces different qualities of wrinkling in the lower lid. In 7+12, the palpebral part of the upper eyelid is lowered, but not in 6+12, producing a much more narrowed eye aperture in 7+12 than in 6+12. Note also that the changes in the medial parts of the infraorbital triangle and lips in 6+12 appear different from those in either 12 alone or 7+12. Finally, the 6+12ii video shows an jump in the intensity of the AUs near the end of the item. You can see changes in the eye cover fold caused by 6 during this increase, a constriction and consequent wrinkling, if you look closely.

As mentioned in the description of AU 6, it is typical that when scoring a 6, evidence to score a 7 can usually be found, and thus, scoring a 6+7+12 is more likely than a 6+12. Now examine the 6+7+12 video to see how different it is from the 7+12 and 6+12 videos. These differences are similar to the differences in 6+7 versus 6 or 7 described in 6secA on [page 31](#). You can clearly see in the 6+7+12 video how the changes due to 6, 7, and 12 have combined additively to produce these appearances. Independent evidence of each AU can be discerned, as described in the paragraph above, that mandates the scoring of 6, 7, and 12 in the 6+7+12 video. When you see a 6 with (or without) 12, look carefully to find the evidence of 7, and if present, score it. If evidence of 7 is not present or can be explained easily by 6 (as in the 6+12ii video), score 6

alone. See the comparisons of 6+12 vs. 7+12 vs. 6+7+12 and 6+12 vs. 12A/B/C and 6+12 vs. 12D/E in the Subtle Differences tables beginning on [page 225](#) for summaries of these distinctions.



B. How to do 6+12, 7+12, and 6+7+12

Follow the instructions for AU 6, AU 7, and AU 12, repeated below. Combine the actions to see the different appearances produced by these combinations.

AU 6 (repeated from [page 32](#)): This action is difficult to produce on demand without including other actions, especially 7. Concentrate on lifting your cheeks without actively raising up the lip corners (that is AU 12). Take time in trying this Action Unit as it may not be possible to do it at first. If you have difficulty:

- Try making AU 15 (see the AU 15 description on [page 100](#)). While holding 15 on your face try to lift your cheeks upwards. Once you can do 6+15, try 6 alone.
- Try AU 9 (see the AU 9 description on [page 93](#)), while holding it on your face add 6. Once you can do 6+9, try 6 alone.
- Try AU 12 (see the AU 12 description on [page 178](#)), note what happens around your eyes. Now try to do that same appearance without moving your lip corners.
- Try winking, using your cheek in the wink. Note how your cheek lifts. Now do that cheek lift without the wink.
- Try squinting your eyes as though to block out a bright sun, and although this motivation is likely to produce AUs 4 and 7 as well, you can refine these movements to exclude all but AU 6.

AU 7 (repeated from [page 28](#)): This movement is fairly easy to do. Tense your eyelids but not enough to close your eyelids completely. Do it as weakly as you can. If you have difficulty, think about narrowing your eye aperture to a slit so that you can see your eyelashes. Be careful you are not also lowering your eyebrow (AU 4). Be careful you are not also wrinkling your nose (AU 9). Be careful you are not also raising your cheeks (AU 6).

AU 12 (repeated from [page 179](#)): This movement is an easy to do. Smile. Imitate image 12i. Holding a weak version on your face, slowly increase the extent of action and watch as your face begins to resemble 6+12ii and 6+12+25ii.

C. Intensity scoring for AUs 6+12, 7+12, and 6+7+12

The intensity scoring for AU 12 in these combinations is the same as for 12 alone, but the criteria for intensity scoring of AUs 6 and 7 are changed slightly because 12 produces some of the same changes as these AUs.

AU 6A in AU Combinations 6+12, 6+7+12, etc.

The appearance changes for AU 6 in 6+12 are sufficiently present to indicate AU 6, but are insufficient to score 6B (e.g., *slight* crow's feet or *slight* cheek raise).

AU 6B in AU Combinations 6+12, 6+7+12, etc.

1. *Marked* crow's feet wrinkles; if present in neutral, they must increase.
and
2. *Slight* infraorbital triangle raise: cheeks up, infraorbital furrow deepened, and bags or wrinkles under eyes; if present in neutral, the furrow and either bags or wrinkles under the eyes must increase.
and
3. *Slight* additional evidence of the constricting effect of AU 6 around the eye aperture that is not produced by AU 12, such as: wrinkling, lowering, or changing shape of the eye cover fold; lowering of the outer corner of the eyebrow, crow's feet wrinkles above the outer corner of the eye lateral to the eyebrow, or movement above the cheekbone that shows bulging in the outer ring of muscle around the eye.

AU 6C in AU Combinations 6+12, 6+7+12, etc.

The crow's feet wrinkling, infraorbital triangle raising, and additional evidence of constricting criteria for 6B are all present and are at least *marked*, but the evidence is less than the criteria for 6D.

AU 6D in AU Combinations 6+12, 6+7+12, etc.

The crow's feet wrinkling, infraorbital triangle raising, and additional evidence of constricting criteria for 6B are all present and are at least *severe*, but the evidence is less than the criteria for 6E.

AU 6E in AU Combinations 6+12, 6+7+12, etc.

Crow's feet wrinkling, infraorbital triangle raising, and additional evidence of constricting criteria are all present and at least *extreme*, with the infraorbital triangle and cheek raising criterion in the *maximum* range.

AU 7A in AU Combinations 7+12, 6+7+12, etc.

The appearance changes for AU 7 are sufficiently present to indicate AU 7, but are insufficient to score 7B (e.g., a *trace* of narrowing not due to other AUs).

AU 7B in AU Combinations 7+12, 6+7+12, etc.

One of the two guidelines below must be *marked*:

1. Narrowing of the eye aperture (due primarily to lower lid raise) that is not produced by:
 - AU 4, which in lowering the brow may also narrow the eye aperture. If AU 4 is present you must be certain the lower lid has also been raised in order to score AU 7.
 - AU 6, which narrows the eye aperture, and obscures the presence of AU 7. Later, you will learn that if the signs of AU 6 are present, it is difficult to see the signs of AU 7, especially without motion that allows you to see the addition or subtraction of the 7 action.
 - AU 12 or 13, which can be strong enough to have narrowed the eye aperture. More specifically, when the actions of 12 or 13 are strong, 6 is likely to be scored as well. With a weak to moderate 12 where AU 6 is not evident, AU 7 is easier to score separately from AU 6. You will learn AU 12 and 13 in Chapter 6.
 - AU 9, which can be strong enough to narrow the eye aperture. AU 9 can obscure the presence of 7, and unless the actions of 7 and 9 are sequential in a motion record, it is difficult to see the signs of 7, especially if AU 9 is strong. You will learn about AU 9 in Chapter 4.
 - AU 43, which in addition to drooping the upper lid may also entail a small lower lid raise; if AU 43 can be scored, then to score 7 criterion 2 or 3 below must be met (i.e., mere narrowing is insufficient for scoring AU 7 when AU 43 is narrowing the eye). For scoring 7 in the combination of 7+43E, see the section on Action Unit Combination 7+43E on [page 62](#).

2. The lower lid is raised and the skin below the eye is drawn up and/or medially towards the inner corner of the eye.

If you did not see the lower lid move up, then criterion 1 must be *marked* and criterion 2 *slight*.

AU 7C in AU Combinations 7+12, 6+7+12, etc.

Both the criteria for AU 7B in 7+12 (narrowing of the eye aperture, raising of the lower lid) are present and one is *marked*, but the evidence is less than the criteria for 7D. You should also see bulging, wrinkling, and/or pouching of the lower eyelid as the lid is drawn up onto the eyeball, beyond the extent that 6 or 12 can produce.

AU 7D in AU Combinations 7+12, 6+7+12, etc.

Narrowing of the eye aperture and raising of the lower lid are both present and at least one of these is *severe*, but the evidence is less than the criteria for 7E. You should also see bulging, wrinkling, and/or pouching of the lower eyelid as the lid is drawn up onto the eyeball, beyond the extent that 6 or 12 can produce.

AU 7E in AU Combinations 7+12, 6+7+12, etc.

1. The narrowing of the eye aperture and raising and stretching of the lower lid are present and in the *maximum* range, hiding most of the iris and pulling skin below the lower eyelid towards the root of the nose.
and
2. Tension in the eyelids and the bagging, bulging, or tensing of the lower eyelid is present and *severe*.

AU 12A

The appearance changes for AU 12 are sufficiently present to indicate AU 12, but are insufficient to score 12B (e.g., a *trace* of raising of skin in the lower/middle nasolabial furrow area and a *trace* of lip corners elongated and angled up). You should emphasize detecting the oblique upward movement of the lip corners in low intensity 12s that changes the angle of the lip corners. Note that neither AU 6 or 11 changes the angle of the lips, as does 12.

AU 12B

1. Skin in the area of the lower-middle portion of the nasolabial furrow or the furrow itself has been raised up and laterally *slightly*. If the nasolabial furrow is permanently etched, it usually deepens with a 12B, but the crucial change is that the skin in this area shifts obliquely. If the nasolabial furrow is not permanently etched, it may not appear with 12B.
and
2. *Slight* evidence that infraorbital triangle has been raised; most likely showing in lifting and puffing out of lateral top corner of infraorbital triangle.
and
3. *Slight* evidence that lip corners elongated and angled up. If upward angle is permanent, it must increase *slightly*.

Note that when 6 is added to 12B there often is more evidence of the nasolabial furrow deepening than in 12B without 6, and the excursion of the lip corners is small in comparison to the extent of crow's feet wrinkles.

Note that appearance changes 1 and 2, as expressed in words, could be due to AU 6, rather than AU 12. However, the appearance of 6 is noticeably different from 12, seen in the images for these AUs. Furthermore, the appearance of 6 and 6+12 also differ. If there are other signs of AU 6, inspect carefully for change 3 to score AU 12.

AU 12C

All three criteria for 12B above are present and all are at least *marked*, but the evidence is less than the criteria for 12D.

AU 12D

Appearance changes 1 (lip corners raised obliquely to make U shape), 2 (deepened nasolabial furrow and oblique movement of skin in that area), and 4 in 12secA are all at least *severe*, but the evidence is less than the criteria for 12E.

AU 12E

Appearance changes 1 (lip corners raised obliquely to make U shape), 2 (deepened nasolabial furrow and oblique movement of skin in that area), and 4 (infraorbital triangle raise, infraorbital furrow deepening, in 12secA must be *extreme to maximum*.