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## ***Action Unit 6 – Cheek Raiser and Lid Compressor***

Figure 2-1 shows that the muscle underlying AU 6 (like that responsible for AU 7) circles the eye orbit, but it has a larger circumference that extends into the eyebrow and below the lower eye furrow. Action Unit 6 pulls skin towards the eye.

### **A. Appearance Changes due to AU 6**

1. Draws skin towards the eye from the temple and cheeks as the outer band of muscle around the eye constricts.
2. Raises the infraorbital triangle, lifting the cheek upwards.
3. Pushes the skin surrounding the eye towards the eye socket, which can narrow the eye aperture, bag or wrinkle the skin below the eye, and push the eye cover fold down and/or change its shape.
4. May cause crow's feet lines or wrinkles to appear, extending radially from the outer corners of the eye aperture.
5. Deepens the lower eyelid furrow. (Apparent in image w6 more than in 6.)
6. May lower lateral portion of the eyebrows to a small extent (in image w6 not 6).
7. 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.
8. 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.

If you are considering scoring AU 4 in the presence of AU 6, the brows must be lowered and pulled together since AU 6 may lower the brow as well, see the Reference for AU 4 on [page 19](#).

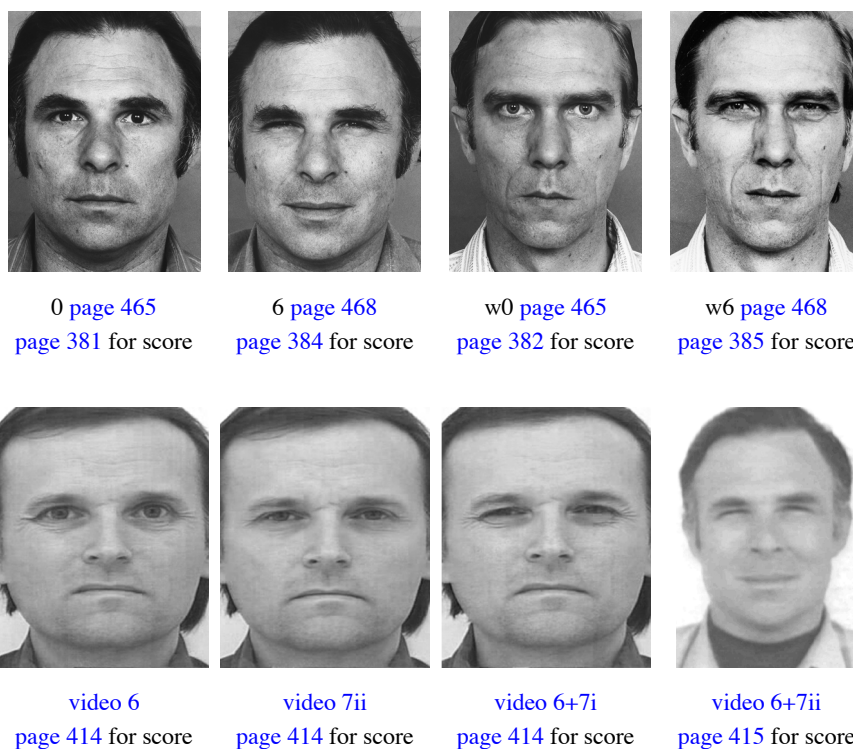
Compare the images of 6 and w6 with 0 and w0. Note that the appearance changes are more evident in w6 than 6. In w6 it is easier to see the raising of the infraorbital triangle and the outer portions of the upper lip, the deepening of the nasolabial furrow, the deepening of the lower eyelid furrow and the infraorbital furrow. Note that in images 6 and w6, AU 7 has combined with AU 6, which is apparent from the eye aperture that is narrowed beyond what 6 can do alone, the pulling up and raising of the lower eyelid onto the eyeball producing bulging and wrinkling beyond what 6 can do, and the pulling up of the skin of the lower lid at the inner corners which 6 cannot do. You should compare 7 and w7 with 6 and w6 to see the appearances of AU 7 that are common and the appearance changes AU 6 introduces on these faces.

For a better distinction between these Action Units, examine the videos of AUs 6, 7, and 6+7. Note in the video of 6, it is mostly the outer ring of skin around the eye that is affected, while in the video of 7, the inner ring of skin is affected. Examine the 6 video to see how much AU 6 alone can affect the lower eyelid's position and the wrinkling of the lower lid and compare this effect with what happens to the lower lid in the 7 video (6 pushes up the lower lid a bit by its constriction of the outer ring, 7 pulls it up more on the eyeball). Similarly, note the subtle differences between the effects of 6 and 7 on the upper eyelid. You can see in Figure 2 that the muscle underlying AU 6 runs through the skin of the cover fold, but the muscle of AU 7 runs through the palpebral part of the upper eyelid (the part on the eyeball). In general, 7 pulls the upper eyelid down, but 6 affects mostly the eye cover fold. On this person's face, AU 7 pulls the eyelid down and the cover fold passively lowers with it; in contrast, AU 6 constricts the skin of the eye cover fold, which you can barely see here in wrinkles on the eye cover fold, but has little effect on the position of the upper eyelid. Such effects of 6 and 7 on the upper eyelid vary widely because of the variations in the shapes and positions of structures in the eye socket (e.g., all three people in the examples have relatively little exposure of the eye cover fold but some people have a great deal). All such differences can be traced back to the different locations of the muscles underlying 6 and 7 depicted in Figure 2-1. Next, look at the inner corners of the eyes, where the tear duct lies, and notice what happens to this wedge of opening when 6 versus 7 occurs (narrows in 7, not 6). Also, note the medial pulling of the skin of the lower lid towards the inner eye corner in 7, not 6. Finally, look at the kind of wrinkles 6 and 7 make at the outer corners of the eyes. AU 7 can make limited, short wrinkles (crow's toes), but AU 6 makes more extensive wrinkles both above and below the eye corners and extending into adjacent regions. These crow's feet of AU 6 hide the crow's toes wrinkles of AU 7 when they occur together. Make sure

you understand why 7 is scored with 6 in the two 6 example images (6 and w6). Now look at the two 6+7 videos to see how these two AUs combine, and how you can detect that both are present by looking for the signs discussed above.

Usually, when the evidence supports scoring AU 6, there is enough independent evidence of AU 7 to score it, but AU 6 does not necessitate the presence of AU 7. Most people add AU 7 to deliberate performances of AU 6, and 6 without 7 is not a typical behavior. Yet, you must make the determination as to whether 7 is present each time you see 6. If there is not the kind of independent evidence of 7 discussed here, score 6 alone. See the discussion of subtle differences between 6 vs. 7, and 6 vs. 6+7 in Table 2-1 on [page 41](#) for summary information on differentiating these AUs.

In the 6+7ii video, a *trace* of AU 12 (smile) occurred, lifting the lip corners a little bit. See the scoring commentaries for the reference examples in Appendix II for more details on scoring these items.



## B. How to do AU 6

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.

## C. Intensity Scoring for AU 6

### AU 6A

The appearance changes for AU 6 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

*Marked* change on either criterion 1 or 2 below or *slight* on both 1 and 2 is sufficient to score 6B.

1. Crow's feet wrinkles; if present in neutral, they must increase.

or

2. 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.

(Note that w6 meets or exceeds criteria 1 and 2 for 6B above. For the 6 image, criterion 1 is *marked*; the image shows only *slight* changes on cheeks up, but not on infraorbital furrow deepening or bags or wrinkles, criterion 2.)

### AU 6C

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

### AU 6D

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

### AU 6E

Crow's feet wrinkling and infraorbital triangle raising are both present, with the infraorbital triangle and cheek raising in the *maximum* range.

**L6+R7 or R6+L7:** If 6 can be scored on one side of the face and 7 on the other side, score as bilateral 6, unless you are scoring asymmetry.

### Reference: AU 6

If there are appearance changes that suggest AU 6, but you are not certain that 6 is present, and there are changes in the lower face (cheek raise and deepening of nasolabial furrow) that are not due to lower face AUs 9, 10, 12, or 13, then consider scoring AU 11.

If you are uncertain whether the signs of 6 have increased from neutral, consider scoring 7, 11, or no score.

#### Action Units or Combinations That Change the Intensity Scoring for AU 6

Problematic Combination of AUs	Target Action of Adjusted Criteria	Use These Criteria or See the Section Indicated
6+9	Criteria for 6B in 6+9	<i>Slight</i> crow's feet wrinkles and <i>slight</i> infraorbital triangle raise: cheek raise, infraorbital furrow deepen, bags or wrinkles under the eyes.

6+9+10	To score 6B with 9+10	Use criteria for 6B+9 in this table above. (Note that AU 9 makes AU 10 difficult to detect.)
6+10	To score 6B with 10	Use the criteria for 6B+9 in this table above.
6+9+12	Criteria for 6B in 6+9+12:	<p>a. <i>Marked</i> crow's feet wrinkles. and,</p> <p>b. <i>Slight</i> infraorbital triangle raise: cheek raise, infraorbital furrow deepening, bags or wrinkles under the eye. and</p> <p>c. <i>Slight</i> additional evidence of the constricting action of AU 6.</p> <p>The complete guidelines for scoring the intensity of 6 in this combination and with 12 generally are presented in the description of the 6+12 combination beginning on <a href="#">page 188</a>. These guidelines are also used in the detailed procedure for scoring combinations of 6, 12, 15, and 17 on <a href="#">page 219</a>.</p>
6+10+12	To score 6B with 10+12	Use the criteria for 6B+9+12 in this table above (same as 6B+12).
6+10+15	To score 6B with 10+15	Use the criteria for 6B+9 in this table above.
6+12	To score 6B with 12	Use the criteria for 6B+9+12 in this table above. If the intensity of AU 12 is C, D, or E, you must see the outer corners of the brows lower <i>slightly</i> or the upper eye cover come down <i>slightly</i> .
6+12+15	To score 6B with 12+15	Use the criteria for 6B+9+12 in this table above (same as 6B+12). Note that 12 and 15 are antagonistic actions and they are difficult to score together, especially without a motion record of their independent actions.
6+13	To score 6B with 13	Use the criteria for 6B+9+12 in this table above.
6+15	To score 6B with 6+15	WARNING: The criteria for scoring 6B in 6B+15 are the same as for scoring 6B alone. However, when 6 and 15 act simultaneously, the usual lifting of the entire infraorbital triangle may not be so evident. AU 15 pulls down the lower portion of the infraorbital triangle and therefore may restrict the lifting of AU 6 to the lateral and extreme upper portions.
6+20	To score 6B with 6+20	WARNING: The criteria for scoring 6B in 6B+20 are the same as for scoring 6B alone. However, the combined effects of 6 and 20 on the infraorbital triangle may alter the usual lifting of the entire area. AU 20 stretches the lower portion of the infraorbital triangle laterally, thus inhibiting the upward movement of that portion. However, the effects of AU 6 should be evident from the lifting in the upper and lateral portions of the infraorbital triangle.