Action Unit Combination – 10+20+25

A. Appearance Changes due to AU Combination 10+20+25

The elements described separately for AUs 10 and for 20 are combined additively, with minor differences due to their joint action, e.g., see appearance changes 2 and 4 below.

- **1.** Raises the upper lip. Center of upper lip is drawn straight up, the outer portions of upper lip are drawn up but not as high as the center.
- 2. Causes an angular bend in the shape of the upper lip. The angle is not as sharp as in 10 alone due to lateral pull by
- **3.** Pushes the infraorbital triangle up, and may cause the infraorbital furrow to appear, or deepen if already evident in neutral.
- **4.** AU 10 deepens the nasolabial furrow and raises the upper part of this furrow, and AU 20 stretches the lower portion laterally, producing a shape as , a somewhat laterally stretched version of the characteristic 10 shape.
- **5.** Widens and raises the nostril wings.
- **6.** Pulls the lips back laterally.
- 7. Elongates the mouth.
- 8. The lips become flattened and stretched by the lateral pull.
- 9. Pulls the skin beyond the lip corners laterally, flattening the cheek area adjacent to the lip corners.
- **10.** Wrinkles may appear at the lip corners or beyond the lip corners part way back towards the ears; the shape of these wrinkles is not important in distinguishing 20 from other AUs, but their presence due to the lateral pull on the skin is noteworthy.
- 11. Pulls the lower portion of the nasolabial furrow laterally.
- 12. Stretches the skin over the chin boss laterally. May cause the chin boss to appear flattened or stretched.

If you are considering scoring AU 16 in this combination, review the criteria for scoring 16+20 in the Reference for AU 16 on page 115.

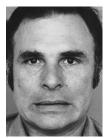
Compare the effects of 10, 20, and 25 in images 10+25, 20+25 and 10+20+25. Inspect the video of 10+20+20 and study the video 16+20+25 to observe the appearance of 16 with 20 and the difference between 16 and 10 in combination with 20.



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video 10+20+25



video 16+20+25

page 421 for score

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B. How to do AU Combination 10+20+25

Follow the instructions given for AU 10 and for AU 20, repeated below. Study the effect of doing 10 first, then adding 20. Then, do 20 first, adding 10. Do a low and a high action of 20 and observe the difference.

AU 10 (repeated from page 95): This movement is easy to make. Be careful not to involve AU 9 – no nose wrinkling. Just lift your upper lip straight up to show your upper front teeth. Practice weak and strong actions.

AU 20 (repeated from page 146): This movement is a fairly easy to do. Pull your lip corners back, stretching the lips as hard as you can. Be careful not to pull the corners down (AU 15) and not to pull the corners up (AU 12). If you have difficulty, place your fingers adjacent to the lip corners and pull horizontally towards the back of your jaw and try to hold the appearance when you remove your fingers. You can also induce AU 20 by tightening you neck muscles (AU 21 on page 300) extremely, and you should see your lip corners being pulled. Once you have the feeling of this lip corner stretch, try this stretching alone without the neck muscles. Try to make only a weak action as shown in the 20i and 20+25 images, and then a stronger version as shown in the 20ii image.

C. Intensity Scoring for AU Combination 10+20+25

The intensity scoring guidelines for AUs 10 and 20 in 10+20 are unchanged from 10 alone and 20 alone, and are repeated below with those for 25.

AU 10A

The appearance changes for AU 10 are sufficiently present to indicate AU 10, but are insufficient to score 10B (e.g., a *trace* of pouching or bulging of inner corner of the infraorbital triangle or *trace* of increase).

AU 10B

1. *Slight* pouching or bulging of inner corner of the infraorbital triangle. See Figure 4-2. If the pouch is permanent, it must increase *slightly*. If the pouch is ambiguous, but you can see the center of the upper lip raised and it is not due to 6, 9, 11, or 12, you can score 10.

If you did not see the movement, it must also meet an additional criterion:

- **2.** *Slight* deepening of the upper portion of nasolabial furrow which takes on characteristic shape. If this shape is permanent, it must increase *slightly*. or
- 3. Center of upper lip raised *slightly*, causing an angular bend in the shape of the upper lip.

AU 10C

At least *marked* evidence of pouching or bulging of inner corner of the infraorbital triangle, with lip raising evident and at least some of other appearance changes in 10secA (1) through (5) are present, but the evidence is less than the criteria for 10D.

AU 10D

At least *severe* evidence of pouching or bulging of inner corner of the infraorbital triangle with all appearance changes in 10secA (1) through (5) present, but the evidence is less than the criteria for 10E.

AU 10E

Appearance changes in 10secA (1) through (5) are all present and extreme to maximum.

AU 20A

The appearance changes for AU 20 are sufficiently present to indicate AU 20, but are insufficient to score 20B (e.g., a *trace* of lateral pulling of the lip corners and skin with a *trace* of mouth elongation).

AU 20B

- **1.** The lip corners and skin adjacent to the lip corners are pulled laterally *slightly*. If you do not see the <u>movement</u>, then use the following criteria:
- 2. Pronounced elongation of mouth.

Of

- **3.** *Slight* elongation of mouth, and one of the following:
 - a. *Slight* evidence of flattening of skin beyond the lip corners.

or

- b. *Slight* evidence that the lower portion of the nasolabial furrow or the skin in that area pulled laterally.
- c. *Slight* evidence of chin boss skin stretched and flattened. Unilateral 20 does not produce this appearance, and this criterion is not relevant for unilateral 20.

AU 20C

At least *pronounced* pulling of the lip corners laterally or mouth elongation is *pronounced*, but the evidence is less than the criteria for 20D.

AU 20D

At least *severe* pulling of the lip corners laterally or mouth elongation is *severe* and other signs in 20secA are present, but the evidence is less than the criteria for 20E.

AU 20E

Appearance changes 1, 2, 3, and 4 of 20secA must be extreme to maximum.

AU 25A

When the jaw is shut, the appearance changes for AU 25 are sufficiently present to indicate AU 25, but are insufficient to score 25B (e.g., a clear opening between the lips that is less than 2 millimeters, but you can see no teeth).

When the jaw is lowered by AU 26 or 27, score 25A when actions that act to move the lips together have reduced the lip separation at least *severely* from the separation produced by the jaw opening itself.

In either case, if you are uncertain that the lips are parted, do not score 25A.

AU 25B

There are two alternative criteria for scoring 25B when the jaw is shut:

- 1. Teeth show you can see teeth without doubt. The sight of but one part of one tooth is sufficient, but you must be certain that you see a tooth.
- 2. Space between lips must be at least 2 millimeters (the thickness of 2 quarters, an American coin) between the lips.

When the jaw is lowered, use the intensity score of B to indicate that lip uniting actions are reducing the lip separation at least *slightly* from what they would otherwise be, given the extent of jaw lowering.

AU 25C

If the teeth remain together, i.e., no jaw drop can be detected, the increased lip separation from the criteria for 25B likely comes from another lip separating action or actions and must be a *marked* or *pronounced* departure from the B criteria. For example, you might score a 25C if there is a moderate action of AU 10 or AU 16 (or other lip parting action) or a small action of both 10 and 16 that parts the lips at least *markedly* more than the criteria for 25B, but less evidence than the criteria for 25D.

If the jaw is lowered by AU 26 or 27 to separate the lips, and the separation is not increased more than a *trace* by other lip separating actions or decreased more than a *trace* by lip constricting actions, score 25C. The intensity score of C for AU 25 represents the lip separation controlled virtually entirely by the jaw lowering, the lips otherwise remaining relaxed or minimally affected by other muscles pulling them open or constricting them, regardless of the absolute distance between the lips. Use the relative position of the upper lip to the upper teeth and the lower lip to the lower teeth as a guide to whether the lip separation is more or less than the jaw lowering alone produces. If other muscles act to constrict the lips, consider scoring B or A; if they act to separate the lips, consider scoring D or E.

AU 25D

When there is no jaw lowering and the lips part due to other lip separating actions, the lip separation must be *severely* greater than the criteria for 25B to assign a D intensity code to AU 25. Thus, when the teeth are together, lip parting actions other than jaw lowering, such as AU 10 and/or 16, must be pulling the lips apart at least *severely* beyond the B criteria, but less evidence than the criteria for 25E.

When the jaw is lowered, assign a D intensity score to AU 25 when these same lip lowering and raising actions are separating the lips at least *slightly* more than they would be from the jaw lowering alone, but not more than the criteria for the E intensity score. A *slight* departure from the opening caused by the jaw lowering might result from a lip lowering action, a lip raising action, or both.

AU 25E

Like the other intensities of AU 25, the E intensity is not intended to reflect the absolute maximum possible separation of the lips, but rather the maximum possible separation given the degree of jaw lowering, if any. When the teeth remain together, score an E intensity when lip parting actions, such as AUs 10 and 16, separate the lips at least *extremely* or near *maximum* by both lowering the lower lip and raising the upper lip, so that the lips are separated about as much as possible.

When the jaw is lowered, assign the E intensity when both the upper lip is raised and the lower lip is lowered so that the lips are separated at least *severely* more parted than what would result from the lowered jaw alone. Thus, for example, if AU 10 and AU 16 were both acting at *maximum* so that you think the lips are separated as much as possible given the jaw lowering, you assign an E intensity code to 25.