Action Unit Combination – 9+17

A. Appearance Changes due to AU Combination 9+17

The elements described separately for 9 and 17 are combined additively, without eliminating or changing the appearance associated with each. The appearance changes compile those listed earlier for 9 and for 17.

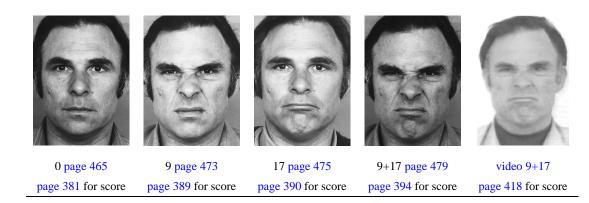
AU9

- **1.** Pulls the skin along the sides of the nose upwards towards the root of the nose causing wrinkles to appear along the sides of the nose and across the root of the nose.
- **2.** Pulls the infraorbital triangle upwards, causing the infraorbital furrow to wrinkle (or, if it is permanently etched, to deepen), and bunching or bagging of the skin around the lower eyelid.
- **3.** Lowers the medial portion of the eyebrows, which tends to conceal any raising of the inner corners of the brow by AU 1.
- **4.** Narrows the eye aperture due to the actions described in appearance changes 2 and 3.
- 5. Pulls the center of the upper lip upwards. If the action is strong, the lips part, otherwise the lips may remain closed.
- **6.** May widen and raise the nostril wings.
- 7. May deepen the nasolabial furrow if the action is strong.

AU 17

- **8.** Pushes the chin boss upward.
- **9.** Pushes the lower lip upward.
- **10.** May cause wrinkles to appear on the chin boss as skin is stretched, and may produce a depression medially under the lower lip.
- 11. Causes shape of mouth to appear or this inverted-U shape to increase if present in neutral.
- **12.** If the action is strong, the lower lip may protrude.

Compare images of 9, 17 and 9+17. Inspect the video of 9+17.



B. How to do AU Combination 9+17

Follow the instructions for AU 9 and for AU 17, repeated below, and do these actions together.

AU 9 (repeated from page 93): This movement is easy to do, but often recruits additional muscle strands of AU 4 that are not part of the 9 action. Wrinkle your nose. Do it as strongly as you can. Do it as weakly as you can. Note all of the appearance changes described in Section A above. Try to do AU 9 without doing AU 4, which pulls the brows together

and forms vertical wrinkles. Action of AU 9 beyond low intensities usually recruits the muscle fibers involved in AU 4, which pull the inner corners of the eyebrows down. With AU 9, the brows may lower, but not draw together, unless AU 4 co-occurs. AU 4 is not scored with AU 9 when only the inner corners are lowered. If you have trouble doing AU 9 at all, try squinting your eyes as though blocking out a bright light, though this motivation may also produce AUs 4 and 6, which you must then eliminate.

AU 17 (repeated from page 98): This movement is easy to do. Push your lower lip upwards. Note the wrinkles in your chin, and the change in the shape of the lower lip. If you are unable to make this movement, place your fingers on your chin about in the middle and push the skin upwards, noting the changes that occur. Now try to hold this appearance when you take your fingers away.

Be certain you are not <u>pulling</u> the lip corners down, that would be AU 15 or 15+17.

C. Intensity Scoring for AU Combination 9+17

The criteria for scoring the intensity of AUs 9 and 17, repeated below, are unchanged in the combination 9+17. Any combination of intensities can occur for AUs 9 and 17 in the combination 9+17, and you have to assign intensity scores based on analysis of each AU independently.

AU 9A

The appearance changes for AU 9 are sufficiently present to indicate AU 9, but are insufficient to score 9B (e.g., a *trace* of infraorbital triangle raise with skin drawn medially towards the bridge of the nose). Mere faint wrinkles on the nose are insufficient evidence as these may appear or deepen when skin is tightened by other actions without 9, especially on women with thin, light skin.

AU 9B

1. The skin from the medial portion of the infraorbital triangle to the side of the nose is *slightly* drawn medially and upward towards the bridge of the nose.

If you did not see the movement, then the appearance change must meet the following criteria:

- **2.** *Slight* evidence of nose wrinkling and *slight* evidence of infraorbital triangle raise (which deepens the infraorbital furrow), as long as the nose wrinkling is not just a horizontal crease across the very top of the bridge of the nose. If it is just a crease, it is probably due to AU 4, and the proper scoring would be 4, or perhaps 4+10 if there is also infraorbital triangle raise.
- **3.** If the only clue is nose wrinkling (and it is not just the horizontal line across the bridge of the nose just described), then the wrinkles which appear must be more than a surface line, and there must be some impression that the wrinkles have some depth. Sometimes there are a few very faint surface lines on the nose, barely visible, with no other evidence of 9 (e.g., raising of nostril wings, upper lip, or infraorbital triangle). In such cases do <u>not</u> score 9.

AU 9C

At least *marked* evidence of medial infraorbital triangle raise that draws the skin towards the nasal bridge to form nose wrinkles, but the evidence is less than the criteria for 9D.

AU 9D

At least *severe* evidence of medial infraorbital triangle raise that draws the skin towards the nasal bridge to form nose wrinkles, but the evidence is less than the criteria for 9E. A 9D or 9E parts the lips, unless AU 17 or AU 24 also occurs, and so a 17, 24, or 25 must be scored with these intensities.

AU 9E

Nose wrinkling, infraorbital triangle raise drawing the skin towards the nasal bridge, and deepening infraorbital furrow are in the *maximum* range. A 9D or 9E parts the lips, unless AU 17 or AU 24 also occurs, and so a 17, 24, or 25 must be scored with these intensities.

AU 17A

The appearance changes for AU 17 are sufficiently present to indicate AU 17, but are insufficient to score 17B (e.g., a *trace* of lower lip pushed up and/or *trace* of chin boss wrinkling).

AU 17B

- **1.** *Slight* evidence of lower lip push up beyond the movement necessary to close the lips; may include lip protrusion, or depression in medial area under the red part of the lip. The lower lip may slide in front of the upper lip and expose more of the red part of the lip than usual.
- **2.** *Slight* chin boss wrinkling or puckering, <u>and</u> upward movement of chin boss. If the chin boss is permanently wrinkled, it must increase *slightly*. AU 15 may cause similar chin wrinkling, but they differ in appearance. See 15 vs. 17 in subtle differences.

AU 17C

The pushing up of the lower lip and the wrinkling/puckering of the chin boss are both evident and at least one is *marked*, but the evidence is less than the criteria for 17D.

AU 17D

The pushing up of the lower lip and the wrinkling/puckering of the chin boss are both evident and at least one is *severe*, but the evidence is less than the criteria for 17E.

AU 17E

The pushing up of the lower lip and the wrinkling/puckering of the chin boss are both in the maximum range.