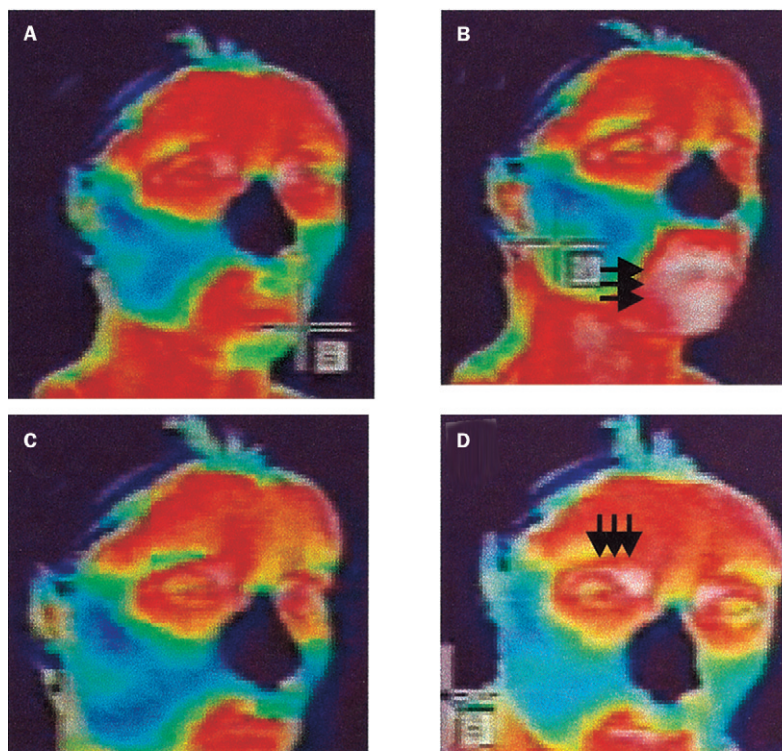


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The face of fear

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Specific activities are associated with characteristic, facial thermal signatures. For example, chewing gum is accompanied by warming over the mandibular region that corresponds to a 20% increase in energy expenditure (figure (A) before and (B) after chewing; arrows indicate local warming). To investigate how regional, facial blood flow changes with fright, six individuals were startled with a sudden loud noise. Facial thermal imaging was done in a silent, darkened, temperature control laboratory (22° C) with an uncooled thermal camera (Raytheon, Explor IR, Lexington, MA, USA). There was instantaneous periorbital warming and cheek cooling in all individuals. Figure (C) is a facial thermal image before and (D) 300 ms after the startle. Startling is associated with instantaneous increases in blood flow to eye musculature and redistribution of blood away from the cheeks. Facial thermal signatures can convey the psychological state of a person without physical contact.

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