Healthy Ageing Delays by 40 Ms the Processing of the Face Features that Underlie Face Detection Behavior

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Presentation Abstract Summary To understand the slowing down of cognition correlated with neural and behavioral responses of the ageing brain, we must understand how ageing affects everyday information processing mechanisms. Here, we used the everyday face detection task fundamental for most social interactions and considered how healthy ageing changes what, where and when the brain processes face features. We show that the processing of the features diagnostic of face detection (i.e. the eye contralateral to the recording lateral posterior electrode) is delayed and weaker in older adults though behavior indicates that they rely more on the eyes to detect faces. Furthermore, we demonstrate that the brains of young and older observers coded the eyes differently. Young observers coded the contra-lateral eye both in the N170 latency and amplitude, whereas older adults coded it only on amplitude. Our results provide the first functional account of where, when and how advancing age affects the early stage of visual information processing in an everyday cognitive task.

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