The normal sensibility of the hand declines with age—a proclamation for the use of delta two-point discrimination values for sensibility assessment after nerve reconstruction.

Abstract:

The scores used to evaluate sensibility after digital nerve reconstruction do not take the patient's age into consideration, although there is evidence that the outcome after digital nerve reconstruction is age-dependent. However, it is not clear if the normal sensibility of the hand is also age-dependent, as the existing studies have major limitations. We evaluated the normal sensibility of the hand in 232 patients using static and moving two-point discrimination (2PD) tests and the Semmes-Weinstein-monofilament test. We found the climax of sensibility in the third decade with age-dependent deterioration afterwards in all three tests. Mean 2PD values of the radial digital nerve of the index finger (N3) showed to be significantly lower than values of the ulnar digital nerve of the small finger (N10). To overcome shortcomings of classification systems that do not consider the patient's age and inter-individual differences, we suggest using the difference of the static 2PD values of the injured to the uninjured contralateral nerve (delta 2PD) for assessment of sensibility after digital nerve reconstruction.