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Igor Pak* (pak@math.mit.edu.zzz_(delete.zzz)), Room 2-390, Department of Mathematics, MIT, Cambridge, MA 02139. Something old and something new on infinitesimal rigidity of convex polyhedra. Preliminary report.

In his classical 1915 paper Max Dehn proved the infinitesimal rigidity of convex polyhedra. Just like the Cauchy theorem, this result implies the usual (continuous) rigidity of convex polyhedra. We will discuss Dehn's all but forgotten original proof and how it fits with modern combinatorial ideas. If time permits we will also present a new proof of the infinitesimal rigidity due to the author, which is based on a different approach. (Received August 15, 2005)