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The authors would like to thank Drs Okeson,¹ Palla,² and Könönen³ for their valuable comments on the Focus Article⁴ that are, in general, very supportive of the thoughts and suggestions put forward in the Focus Article. As also stated in the Focus Article, the authors agree that for any set of clinical criteria to be accepted, its validity, sensitivity, and specificity should be assessed, preferably against a gold standard. However, this immediately confronts us with a problem. Magnetic resonance imaging (MRI), the technique usually considered to provide the “gold standard” for an anterior disc displacement with reduction (ADDR), is expensive and elaborate, and may not be as golden as it appears, as clearly pointed out by Dr Palla.² Therefore, the authors used the technique of mandibular movement recordings. This is a simpler and easier-to-use technique that also enables larger patient samples to be studied. The authors considered an ADDR to be present when the condylar movement traces show well-defined movement interferences,⁴ indicative for the phenomena of reduction and dislocation of the disc. They agree that joint conditions other than ADDR or symptomatic hypermobility may be responsible for (reciprocal) joint clicking.^{1,3} For this reason, and since the authors were primarily interested in the recognition of ADDRs, those clicking sounds which did not coincide with the moments of the ADDR movement interferences, were disregarded. When condylar movement recordings indicate the presence of an ADDR, this is usually confirmed by the results of MRI (high specificity of about 95%).^{5,6} In this respect, the authors do not share Okeson's concern¹ that not all their patients actually had an ADDR.

Counseling of patients is an integral part of the patient treatment. Since quite often, patients are worried about the clicking sounds from their joints, it is important to be able to correctly tell the patient which joint condition is responsible for these sounds and what the long-term prognosis is for the condition.⁷ Thus, making a proper diagnosis may have important clinical implications. Simply diagnosing clicking joints as joints with an

internal derangement² may not be good enough. Moreover, adding “likely due to...” to the diagnosis already implies that we should be able to actually make the distinction between the various forms of internal derangements.

The kinematic center is indeed not an anatomical point of the condyle. Its position is determined only by that part of the surface of the condyle-disc complex which articulates with the articular eminence during opening. Since the condyle-disc complex rarely has the shape of a ball, it is not surprising that the kinematic center is often located outside the anatomical boundaries of the condyle. Although this must always be kept in mind when analyzing its movement traces,² this does not interfere with a proper application in recognizing ADDRs.⁵

The recognition of the reciprocal nature of the clicking is often hampered by the closing click being much softer than the opening click. The authors are pleased that their suggestion to load the mandible lightly during closing in order to enhance the intensity of the closing click is accepted in all three commentaries as being a valuable concept.¹⁻³ Why the closing click is often so much softer than the opening click is still unclear. It is true that factors other than a higher loading of the joint during opening may play a role here.²

The authors agree that the elimination of early opening clicks on protrusive opening does not exclusively point to an ADDR and runs the risk of false positives.^{3,4} The risk of false negatives in the case of a disc dislocation in the middle phase of closing² however, is probably very low since the dislocation usually occurs at the end phase of the closing movement.^{8,9}

Research into discriminating an ADDR from symptomatic hypermobility is hampered by the lack of consensus about the definition of hypermobility. Is a joint hypermobile when its condyle is beyond the crest of the eminentia on wide opening? In this case, it could indeed be recognized by MRI.¹ However, since about 70 percent of the population will show this so-called “elapsio praearticularis,”^{3,10,11} one may wonder whether this is a meaningful clinical concept. Others consider a joint

only hypermobile when it also shows characteristic symptoms such as clicking sounds and jerky mandibular movements on passing the crest. In that case, MRI cannot recognize the disorder.

The authors appreciate that progress is being made in coming to a new set of Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) criterias and hope that the Focus Article and the constructive commentaries will turn out to be helpful in improving the original set of the RDC/TMD¹² tests.

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