Response to Letter to the Editor, “Temporomandibular Joint Disorders’ Impact, Research Models, and Implications for Regenerative Approaches”

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We appreciate the Letter to the Editor from Dr. Profeta (Profeta 2015) in response to our article entitled “Temporomandibular Joint Disorders’ Impact on Pain, Function, and Disability” (Chantaracherd et al. 2015).

Research is usually performed on a sample of the target population, and the findings represent the typical cases in this group of individuals. Our study found that, for the typical case of temporomandibular disorder (TMD), overall, worsening of temporomandibular joint (TMJ) intra-articular disorders did not influence patient-perceived impact of jaw pain, function, and disability to a clinically relevant degree. Our findings suggest that a wide spectrum of individuals, including both community controls and cases as well as clinic cases, can adequately adapt to soft and hard TMJ tissue structural changes to permit adequate functioning.

Conversely, some patients with TMD have severely structurally compromised TM joints due to systemic disease, failed TMJ implants, or traumatic influences. Sometimes, the structural TMJ changes can cause malocclusions that further affect jaw function, including eating and chewing. While this is not typical of TMD cases, clinical experience supports that such situations can have a dramatic patient-perceived influence in terms of pain, function, and psychosocial impact. Unfortunately, systematic studies of such conditions are rare because, fortunately, these situations are not common.

In situations where TMJ structures are severely compromised, tissue engineering and regenerative medicine may provide an avenue to improve suffering of patients, in particular when commonly applied therapeutic strategies have already been exhausted. We agree with Dr. Profeta that the better we are able to mimic the TMJ’s anatomy and physiology, the better the chances of improving patient-perceived impact of the treatment. The field of TMJ tissue engineering has made substantial progress over the last 15 years (Willard et al. 2011). As

a rapidly expanding area, it contributes to a better understanding of the TMJ with the hope that future advances can be translated into effective treatment options for patients with temporomandibular disorders.

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