John Blythe

Department of Oral and Maxillofacial Surgery

4th Floor Dental Institute

The Royal London Hospital

Whitechapel Road

London E1 1BB

25.9.2016

Honorary Secretary

Endowments Sub Committee

British Association of Oral and Maxillofacial Surgeons

The Royal College of Surgeons

35/43 Lincoln’s Inn Fields

London WC2A 3PE

Dear Committee

**Re: The role of the MyotonPRO in assessing muscle characteristics in facial paralysis and its role in diagnosis and monitoring.**

I am writing to update the Endowments Committee with the progress of my MyotonPRO research. I am pleased to announce that after considerable preparation during my fellowship year in Brussels in 2015 I have completed phase 1. The MyotonPRO measurements generated a considerable bank of data, which has taken months to analyse during 2016. Data interpretation and statistical analysis has been conducted with the assistance of the University of Southampton Statistics Department. The results were presented at this year’s BAOMS Annual Scientific Meeting in Brighton.

In summary, the results demonstrated the MyotonPRO had good to excellent reliability when assessing the temporalis, zygomaticus and depressor anguli oris among healthy subjects. There were no statistically significant differences between left or right, time of day, lying or sitting and assessor. However there was less convincing support for finer mimic muscles directly overlying bone (frontalis and orbicularis oculi). Data collected, the first of its kind in the facial region, also provided the starting point in establishing a reference range for facial muscle biomechanical characteristics (e.g. muscle tone, stiffness, elastic deformation). This may provide a benchmark to compare measurements between healthy and damaged muscle. I hope to submit an article to BJOMS later in the year detailing my phase 1 findings.

Also in 2016 preparations for phase 2 (Case-control study in patients with unilateral facial paralysis) have commenced. A research collaboration with Dr Daniel Labbe (Caen & Paris) and Professor Maurice Mommaerts (Brussels) has been established for the next phase. In phase 2, MyotonPRO measurements in patients with unilateral facial paralysis will be compared with the healthy side. During 2016 hardware modifications are also anticipated.

In summary, this pioneering research project is progressing well, with early results supporting a diagnostic and monitoring role in OMFS/ Head and Neck Surgery. I look forward to sharing the results with BAOMS as the research progresses. I would like to thank the BAOMS and the Endowments Committee for their huge support.

Yours sincerely

John Blythe