

Supplementary Data File 4: Frequency-response curves for Electrical Field stimulation in tissues from Adults and the Elderly

Using electrical field stimulation (EFS), frequency-response curves were constructed using ascending and descending colon from adult (35 to 60 years) and elderly (≥ 70 years) patients; females and males were assessed together. EFS was applied at 1 – 20 Hz and at 50V for 10s every 1 min.

In adult ascending and descending colon, 1-20Hz EFS usually caused contraction often followed by after-contraction on termination of EFS. Tetrodotoxin 1 μ M prevented responses to 1-5Hz EFS but small monophasic contractions remained at higher frequencies (data shown in the main manuscript). The figure below, compares the contraction force generated *during and after EFS* in adult ascending (respectively, n = 19 and 15) and descending colon (n = 15 and 12) and in the elderly ascending (n = 32 and 24) and descending colon (n = 26 each). Compared with adults, ascending colon from the elderly exhibited little-or-no muscle movement during 1-2Hz EFS and contractions during 5–20Hz appeared smaller (respectively n=19 and 32); there were no age-dependent differences in after-contractions; respectively n=15, 24). In descending colon from the elderly, any effects of increasing age were unclear (n=12-26).

