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**Figure A1**. Effect of gastrocnemius (GAS) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As GAS weakness increased, the GAS (comprised of the lateral and medial gastrocnemius) and tibialis anterior decreased in force while the soleus increased in force.

**E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_GMAX_REDO_PAPER.tif Figure A2**. Effect of gluteus maximus (GMAX) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As GMAX weakness increased, the gluteus maximus decreased in force while the biceps femoris long head, gluteus medius, rectus femoris, and vasti muscles increased in force.

E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_GMED_REDO_PAPER.tif**Figure A3**. Effect of gluteus medius (GMED) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As GMED weakness increased, the gluteus medius decreased in force while the gluteus maximus and minimus increased in force.

E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_HAM_REDO_PAPER.tif**Figure A4**. Effect of hamstring (HAM) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As HAM weakness increased, the HAM (comprised of the biceps femoris long and short heads, semimembranosus, and semitendinosus), lateral and medial gastrocnemius and tibialis anterior muscles increased in force while the rectus femoris decreased in force.

**E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_ILPS_REDO_PAPER.tif Figure A5**. Effect of iliopsoas (ILPS) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As ILPS weakness increased, the ILPS (comprised of the iliacus and psoas) decreased in force while the rectus femoris and lateral and medial gastrocnemius muscles increased in force.

E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_PLFL_REDO_PAPER.tif**Figure A6**. Effect of plantarflexor (PF) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As PF weakness increased, the PF (comprised of the flexor digitorum and longus, lateral and medial gastrocnemius, and soleus) increased in force while the tibialis anterior decreased in force.

**E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_QUAD_REDO_PAPER.tifFigure A7**. Effect of quadriceps (QUAD) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As QUAD weakness increased, the QUAD (comprised of the rectus femoris and vastus intermedius, lateralis, and medialis), iliacus, and psoas muscles increased in force while the biceps femoris long head and short head, lateral and medial gastrocnemius, and gluteus maximus muscles decreased in force.

**E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_RF_REDO_PAPER.tifFigure A8**. Effect of rectus femoris (RF) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As RF weakness increased, the RF, iliacus, psoas, and vasti muscles increased in force the biceps femoris long head and short head, lateral and medial gastrocnemius, gluteus maximus and medius muscles decreased in force.

E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_SOL_REDO_PAPER.tif**Figure A9**. Effect of soleus (SOL) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As SOL weakness increased, the SOL, quadriceps, and lateral and medial gastrocnemius increased in force.

**E:\NMBL\STS\Grant\Grant_STS\Elena Analysis\SO_Force_Code\SO_Force_TA_REDO_PAPER.tifFigure A10**. Effect of tibialis anterior (TA) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As TA weakness increased, the TA increased in force while the lateral and medial gastrocnemius muscles decreased in force.

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**Figure A11**. Effect of vasti (VAS) weakness on muscle forces of all leg muscles in the dominant leg averaged across participants. As VAS weakness increased, the VAS (comprised of the vastus intermedius, lateralis, and medialis) and biceps femoris long head muscles decreased in force while the gluteus maximus and medius and rectus femoris increased in force.