BIODEX ADVANTAGE SOFTWARE
FOR MULTI-JOINT SYSTEM 4

VERSION 4.56

830-000
835-000
840-000
850-000

The forthcoming System 4 Advantage software release 4.56 will include the following:

1. The new enhanced data export utility provides a simple means to export patient data files of multiple subjects' calculated data and raw data from tests in the Advantage database all at once. Calculated data can be exported as .csv or .txt file formats. "Raw" data files are exported as .txt files which are compatible with popular third party research programs, such as MatLab, LabView or BioPac.
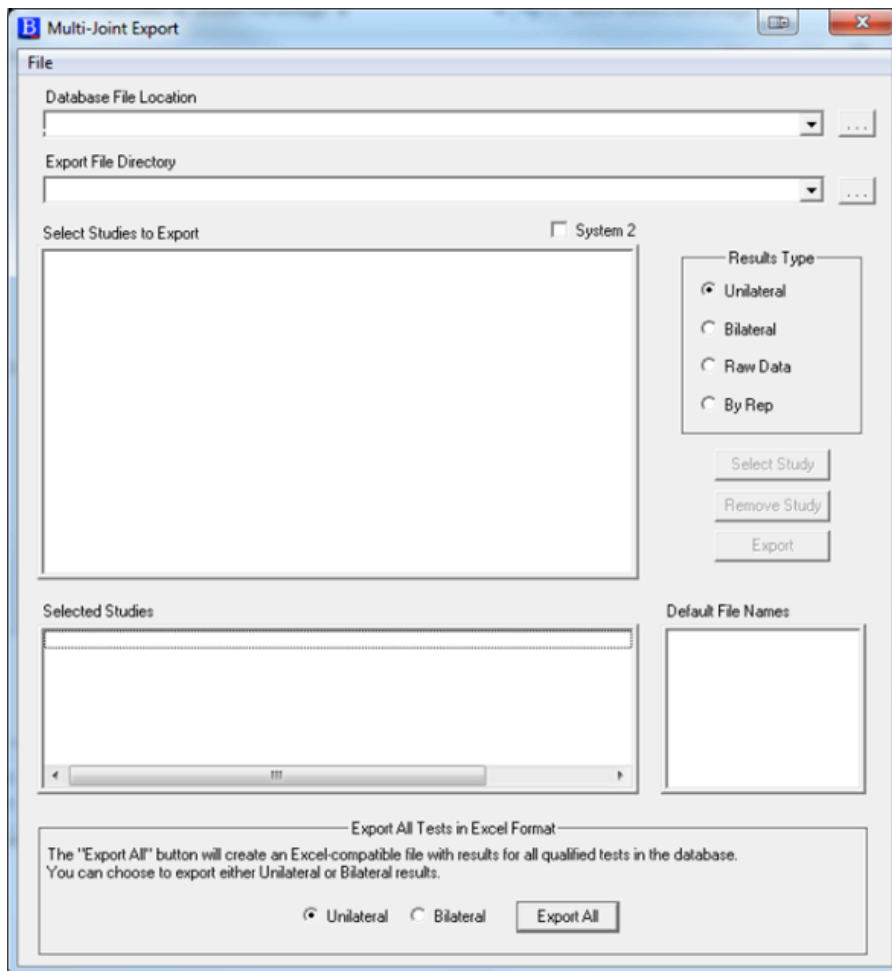
2. This utility is available in the Biodex Medical program folder and can be launched by clicking on the Multi-Joint Export icon.
3. The Rehab Exported Data Parser, in the form of an Excel macro, facilitates the process of working with exported data. The Data parser has the header files preformatted. The data can also be presented in a similar format as a report.
4. Expanded and updated Isokinetic normative data is available for knee, ankle, hip, shoulder, elbow, and wrist. Peak Torque to BW% for each direction (away and towards) as well as a Goal for agonist/antagonist ratio (which is the normally weaker muscle group/normally stronger group) from a population of 178 (93 male and 85 female) healthy non-athletic volunteers aged 15–83 years*. The Biodex Multi-joint System now includes normative data from pediatric age (6 -13) years through adults to age 83.

ISOKINETIC NORMATIVE DATA

KNEE EXTENSION/FLEXION – 90 degrees per second

Agonist/Antagonist Ratio = Normally Weaker/Normally Stronger

AWAY

Peak Torque to Body Weight %

Extension

Gender : Age	<30	30-39	40-49	50-59	60-69	>70
male high	116%	96%	91%	90%	82%	71%
male low	79%	78%	67%	57%	56%	55%
female high	88%	88%	79%	71%	66%	56%
female low	69%	64%	61%	53%	42%	43%

Agonist/Antagonist Ratio: Flexion/Extension Ratio

Gender : Age	<30	30-39	40-49	50-59	60-69	>70
male high	53%	49%	50%	65%	57%	54%
male low	44%	41%	47%	50%	52%	44%
average	48%	45%	49%	57%	54%	49%
female high	55%	47%	49%	54%	50%	55%
female low	55%	45%	42%	47%	47%	49%
average	55%	46%	45%	50%	48%	52%

TOWARD

Peak Torque to Body Weight %

Flexion

Gender : Age	<30	30-39	40-49	50-59	60-69	>70
male high	62%	47%	46%	59%	47%	38%
male low	35%	32%	32%	28%	29%	24%
female high	48%	42%	39%	38%	33%	31%
female low	38%	29%	25%	25%	20%	21%

ANKLE PLANTAR/DORSIFLEXION – 60 degrees per second

AWAY

Peak Torque to Body Weight %

Plantarflexion

Gender : Age	<30	30-39	40-49	50-59	60-69	>70
male high	69%	57%	55%	57%	53%	46%
male low	47%	39%	37%	41%	34%	25%
female high	90%	61%	48%	68%	61%	45%
female low	47%	48%	45%	41%	36%	31%

Agonist/Antagonist: Dorsiflexion/Plantarflexion

Gender : Age	<30	30-39	40-49	50-59	60-69	>70
male high	27%	27%	33%	30%	28%	29%
male low	28%	29%	29%	28%	31%	39%
average	27%	28%	31%	29%	30%	34%
female high	15%	20%	20%	21%	20%	24%
female low	24%	23%	21%	22%	19%	25%
average	20%	21%	20%	21%	20%	24%

TOWARD

Peak Torque to Body Weight %

Dorsiflexion

Gender : Age	<30	30-39	40-49	50-59	60-69	>70
male high	19%	16%	18%	17%	15%	13%
male low	13%	15%	14%	15%	14%	12%
female high	14%	15%	13%	14%	12%	11%
female low	11%	11%	9%	9%	7%	8%

BIODEX

SHOULDER ABDUCTION/ADDUCTION – 60 degrees per second

*Reference document: Harbo T, Brincks J, Andersen H (2012) Maximal isokinetic and isometric muscle strength of major muscle groups related to age, body mass, height and sex in 178 healthy subjects. Eur J Appl Physiol 112:267-275

For a complete listing of new normative data.
Go to www.biodex.com/clinicalresourcemanual