

detecting, at the powered device, an indicia of joint movement or muscle stress with flexion or extension of the joint; and

activating the actuator to exert force, the activating being controllable for directing the force so that, when assisting, the force reduces the muscle stress and, when resisting, the force opposes the joint movement.

52. A method as in claim 51 wherein the desired mode of operation is user selectable and includes assist and resist modes.

53. A method as in claim 52 wherein the desired mode further includes idle, rehabilitate and monitor modes.

54. A method for movement control with a powered device, comprising:

fastening a powered device at points above and below a joint, the powered device having an electrostatic actuator;

setting a desired mode of operation of the powered device;

detecting, at the powered device, an indicia of joint movement or muscle stress with flexion or extension of the joint; and

activating the electrostatic actuator to exert force, the activating being controllable for directing the force so that, when assisting, the force reduces the muscle stress.

55. A method as in claim 54, wherein the activating is further controllable for directing the force so that, and, when resisting, the force opposes the joint movement.

56. A method as in claim 55 wherein the desired mode of operation is user selectable and includes assist and resist modes.

57. A method as in claim 56 wherein the desired mode further includes idle, rehabilitate and monitor modes.

58. A computerized system for controlling movement, comprising:

a processing unit;

detection means for detecting joint movement and muscle stress;

an actuator operative to exert force; and

a memory with program code for causing the processing unit to receive an indication as to which mode of operation is selected and in response thereto obtain from the detector means, based on the selected mode, an indicia of muscle stress or joint movement, or both, the program code further causing the processor, based on the selected mode and indicia, to activate the actuator or maintain it idle, the activating being controllable for directing the force so that, when assisting, the force reduces the muscle stress and, when resisting, the force opposes the joint movement.

59. A computerized system for controlling movement, comprising:

a processing unit;

detection means for detecting joint movement and muscle stress;

an electrostatic actuator operative to exert force; and

a memory with program code for causing the processing unit to receive an indication as to which mode of operation is selected and in response thereto obtain from the detector means, based on the selected mode, an indicia of muscle stress or joint movement, or both, the program code further causing the processor, based on the selected mode and indicia, to activate the electrostatic actuator or maintain it idle, the activating being controllable for directing the force so that, when assisting, the force reduces the muscle stress.

60. A computerized system as in claim 59 wherein the activating is further controllable for directing the force so that, when resisting, the force opposes the joint movement.

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