


## Graham Creasey

Paralyzed Veterans of America Professor of Spinal Cord Injury Medicine,  
Emeritus

Neurosurgery

 NIH Biosketch available Online

 Curriculum Vitae available Online

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### Bio

#### BIO

After training as a surgeon in Britain I specialized in spinal cord injuries and am interested in restoring function after damage to the central nervous system, particularly using technology, neural prostheses and regenerative medicine

#### ACADEMIC APPOINTMENTS

- Emeritus Faculty - University Medical Line, Neurosurgery
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Chief, Spinal Cord Injury Service, VA Palo Alto Health Care System, (2008-2012)

#### HONORS AND AWARDS

- Open Scholarship, Anglo American Corporation (1966-72)
- Traveling Fellowship, Wellcome Trust (1973-74)
- Traveling Fellowship, International Spinal Research Trust (1983)
- Winston Churchill Fellowship, Winston Churchill Trust (1985)
- Advanced Research Career Development Award, Dept of Veterans Affairs (1999-2002)
- Macy Fellowship in Medical Simulation, Harvard (2004)

#### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Stanford representative, North American Clinical Trials Network (2013 - present)
- Scientific Advisory Committee, Sensorimotor Adaptive Rehabilitation Technologies Program, University of Edmonton, Alberta, Canada (2012 - 2013)
- Director, Rick Hansen Institute, Canada (2011 - 2017)
- Editorial Board, Sexuality and Disability (2013 - present)

#### PROFESSIONAL EDUCATION

- FRCSEd, Royal College of Surgeons of Edinburgh , Surgery (1979)
- MB, ChB, Edinburgh Medical School , Medicine (1972)

#### COMMUNITY AND INTERNATIONAL WORK

- International Spinal Data Network

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## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Neural prostheses to stimulate and record from the peripheral and central nervous system, thereby directly connecting nervous systems with electronic systems

Neural prostheses for control of bladder, bowel and sexual function after spinal cord injury

### CLINICAL TRIALS

- Electrical Stimulation for Continence After Spinal Cord Injury, Recruiting

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## Teaching

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### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Spinal Cord Injury (Fellowship Program)

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## Publications

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### PUBLICATIONS

- **Electrical stimulation of sacral nerves and roots for control of the neurogenic bladder and bowel.** *Journal of clinical orthopaedics and trauma*  
Creasey, G.  
2023; 39: 102131
- **Adapting the Finetech-Brindley Sacral Anterior Root Stimulator for Bioelectronic Medicine.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*  
Peterken, F., Benjaber, M., Doherty, S., Perkins, T., Creasey, G., Donaldson, N., Andrews, B., Denison, T.  
2021; 2021: 6406-6411
- **Needs, priorities, and attitudes of individuals with spinal cord injury toward nerve stimulation devices for bladder and bowel function: a survey.** *Spinal cord*  
Bourbeau, D., Bolon, A., Creasey, G., Dai, W., Fertig, B., French, J., Jeji, T., Kaiser, A., Kouznetsov, R., Rabchevsky, A., Santacruz, B. G., Sun, J., Thor, et al  
2020
- **A roadmap for advancing neurostimulation approaches for bladder and bowel function after spinal cord injury.** *Spinal cord*  
Bourbeau, D., Creasey, G., French, J., Grill, W. M., Howley, S., Krassioukov, A., Moritz, C., Santacruz, B., Thor, K., Wheeler, T.  
2020
- **Bone changes in the lower limbs from participation in an FES rowing exercise program implemented within two years after traumatic spinal cord injury** *JOURNAL OF SPINAL CORD MEDICINE*  
Lambach, R. L., Stafford, N. E., Kolesar, J. A., Kiratli, B., Creasey, G. H., Gibbons, R. S., Andrews, B. J., Beaupre, G. S.  
2020; 43 (3): 306–14
- **Implantation of Sacral Nerve Stimulator Without Rhizotomy for Neurogenic Bladder in Patient With Spinal Cord Injury: 2-Dimensional Operative Video.** *Operative neurosurgery (Hagerstown, Md.)*  
Ehsanian, R. n., Creasey, G. n., Elliott, C. S., Abu-Eid, C. A., Ali, A. n., Prutton, M. n., Singh, H. n.  
2020
- **Bone changes in the lower limbs from participation in an FES rowing exercise program implemented within two years after traumatic spinal cord injury.** *The journal of spinal cord medicine*  
Lambach, R. L., Stafford, N. E., Kolesar, J. A., Kiratli, B. J., Creasey, G. H., Gibbons, R. S., Andrews, B. J., Beaupre, G. S.  
2018: 1–9
- **Genital nerve stimulation increases bladder capacity after SCI: A meta-analysis.** *journal of spinal cord medicine*  
Bourbeau, D. J., Creasey, G. H., Sidik, S., Brose, S. W., Gustafson, K. J.

2017: 1-9

- **Neural Placode Tissue Derived From Myelomeningocele Repair Serves as a Viable Source of Oligodendrocyte Progenitor Cells.** *Neurosurgery*  
Mitra, S. S., Feroze, A. H., Gholamin, S., Richard, C., Esparza, R., Zhang, M., Azad, T. D., Alrfaei, B., Kahn, S. A., Hutter, G., Guzman, R., Creasey, G. H., Plant, et al  
2015; 77 (5): 794-802
- **Developing a spinal cord injury research strategy using a structured process of evidence review and stakeholder dialogue. Part III: outcomes.** *Spinal cord*  
Middleton, J. W., Piccenna, L., Lindsay Gruen, R., Williams, S., Creasey, G., Dunlop, S., Brown, D., Batchelor, P. E., Berlowitz, D. J., Coates, S., Dunn, J. A., Furness, J. B., Galea, et al  
2015; 53 (10): 729-737
- **Developing a spinal cord injury research strategy using a structured process of evidence review and stakeholder dialogue. Part II: Background to a research strategy.** *Spinal cord*  
Bragge, P., Piccenna, L., Middleton, J., Williams, S., Creasey, G., Dunlop, S., Brown, D., Gruen, R.  
2015; 53 (10): 721-728
- **Developing a spinal cord injury research strategy using a structured process of evidence review and stakeholder dialogue. Part I: rapid review of SCI prioritisation literature.** *Spinal cord*  
Bragge, P., Piccenna, L., Middleton, J. W., Williams, S., Creasey, G., Dunlop, S., Brown, D., Gruen, R. L.  
2015; 53 (10): 714-720
- **Reply to "Letter to the Editor: Consistency Among Musculoskeletal Models: Caveat Utilitor"** *ANNALS OF BIOMEDICAL ENGINEERING*  
Wagner, D. W., Stepanyan, V., Shippen, J. M., DeMers, M. S., Gibbons, R. S., Andrews, B. J., Creasey, G. H., Beaupre, G. S.  
2015; 43 (4): 1055-56
- **Pressure ulcers in people with spinal cord injury in developing nations.** *Spinal cord*  
Zakrasek, E. C., Creasey, G., Crew, J. D.  
2015; 53 (1): 7-13
- **Traumatic brain injury in US Veterans with traumatic spinal cord injury** *JOURNAL OF REHABILITATION RESEARCH AND DEVELOPMENT*  
Creasey, G. H., Lateva, Z. C., Rose, S. M., Rose, J.  
2015; 52 (6): 669-676
- **Combined SCI and TBI: recovery of forelimb function after unilateral cervical spinal cord injury (SCI) is retarded by contralateral traumatic brain injury (TBI), and ipsilateral TBI balances the effects of SCI on paw placement.** *Experimental neurology*  
Inoue, T., Lin, A., Ma, X., McKenna, S. L., Creasey, G. H., Manley, G. T., Ferguson, A. R., Bresnahan, J. C., Beattie, M. S.  
2013; 248: 136-147
- **Electrical stimulation modulates Wnt signaling and regulates genes for the motor endplate and calcium binding in muscle of rats with spinal cord transection** *BMC NEUROSCIENCE*  
Wu, Y., Collier, L., Qin, W., Creasey, G., Bauman, W. A., Jarvis, J., Cardozo, C.  
2013; 14
- **Consistency Among Musculoskeletal Models: Caveat Utilitor** *ANNALS OF BIOMEDICAL ENGINEERING*  
Wagner, D. W., Stepanyan, V., Shippen, J. M., Demers, M. S., Gibbons, R. S., Andrews, B. J., Creasey, G. H., Beaupre, G. S.  
2013; 41 (8): 1787-1799
- **The Central Nervous System (CNS)-independent Anti-bone-resorptive Activity of Muscle Contraction and the Underlying Molecular and Cellular Signatures** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Qin, W., Sun, L., Cao, J., Peng, Y., Collier, L., Wu, Y., Creasey, G., Li, J., Qin, Y., Jarvis, J., Bauman, W. A., Zaidi, M., Cardozo, et al  
2013; 288 (19): 13511-13521
- **Functional electrical stimulation in spinal cord injury respiratory care.** *Topics in spinal cord injury rehabilitation*  
Jarosz, R., Littlepage, M. M., Creasey, G., McKenna, S. L.  
2012; 18 (4): 315-321
- **Functional electrical stimulation for bladder, bowel, and sexual function.** *Handbook of clinical neurology*  
Creasey, G. H., Craggs, M. D.

2012; 109: 247-257

- **Outcome measures in spinal cord injury: recent assessments and recommendations for future directions** *SPINAL CORD*  
Alexander, M. S., Anderson, K. D., Biering-Sorensen, F., Blight, A. R., Brannon, R., Bryce, T. N., Creasey, G., Catz, A., Curt, A., Donovan, W., Ditunno, J., Ellaway, P., Finnerup, et al  
2009; 47 (8): 582-591
- **International standards to document remaining autonomic function after spinal cord injury** *SPINAL CORD*  
Alexander, M. S., Biering-Sorensen, F., Bodner, D., Brackett, N. L., Cardenas, D., Charlifue, S., Creasey, G., DIETZ, V., Ditunno, J., Donovan, W., Elliott, S. L., Estores, I., Graves, et al  
2009; 47 (1): 36-43
- **Lower thoracic spinal cord stimulation to restore cough in patients with spinal cord injury: results of a National Institutes of Health-Sponsored clinical trial. Part II: clinical outcomes.** *Archives of physical medicine and rehabilitation*  
DiMarco, A. F., Kowalski, K. E., Geertman, R. T., Hromyak, D. R., Frost, F. S., Creasey, G. H., Nemunaitis, G. A.  
2009; 90 (5): 726-32
- **Implantable FES system for upright mobility and bladder and bowel function for individuals with spinal cord injury** *SPINAL CORD*  
Johnston, T. E., Betz, R. R., Smith, B. T., Benda, B. J., Mulcahey, M. J., Davis, R., Houdayer, T. P., Pontari, M. A., Barriskill, A., CREASEY, G. H.  
2005; 43 (12): 713-723
- **A urethral afferent mediated excitatory bladder reflex exists in humans** *NEUROSCIENCE LETTERS*  
Gustafson, K. J., CREASEY, G. H., Grill, W. M.  
2004; 360 (1-2): 9-12
- **Clinical applications of electrical stimulation after spinal cord injury.** *journal of spinal cord medicine*  
Creasey, G. H., Ho, C. H., Triolo, R. J., Gater, D. R., DiMarco, A. F., Bogie, K. M., Keith, M. W.  
2004; 27 (4): 365-375
- **Electrical stimulation for the treatment of bladder dysfunction: Current status and future possibilities** *NEUROLOGICAL RESEARCH*  
Jezernik, S., Craggs, M., Grill, W. M., Creasey, G., Rijkhoff, N. J.  
2002; 24 (5): 413-430
- **Control of bladder function by electrical activation of spinal neural circuits** *24th Annual International Conference of the Engineering-in-Medicine-and-Biology-Society/Annual Fall Meeting of the Biomedical-Engineering-Society (EMBS 2002 BMES)*  
Grill, W. A., Gustafson, K. J., CREASEY, G. H.  
IEEE.2002: 2043-2044
- **Selective suppression of sphincter activation during sacral anterior nerve root stimulation** *NEUROUROLOGY AND URODYNAMICS*  
Bhadra, N., Grunewald, V., Creasey, G., Mortimer, J. T.  
2002; 21 (1): 55-64
- **An implantable neuroprosthesis for restoring bladder and bowel control to patients with spinal cord injuries: A multicenter trial** *ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION*  
Creasey, G. H., Grill, J. H., Korsten, M., Sang, H., Betz, R., Anderson, R., Walter, J.  
2001; 82 (11): 1512-1519
- **Economic consequences of an implanted neuroprosthesis for bladder and bowel management** *ARCHIVES OF PHYSICAL MEDICINE AND REHABILITATION*  
CREASEY, G. H., Dahlberg, J. E.  
2001; 82 (11): 1520-1525
- **Functional Electrical Stimulation for control of internal organ function - Commentary** *NEUROMODULATION*  
Creasey, G.  
2001; 4 (4): 162-163
- **Urethral pressure profiles in the female canine implanted with sacral anterior nerve root electrodes** *WORLD JOURNAL OF UROLOGY*  
Bhadra, N., Grunewald, V., Creasey, G., Mortimer, J. T.  
2001; 19 (4): 272-277
- **Functional neuromuscular stimulation in spinal cord injury.** *Physical medicine and rehabilitation clinics of North America*

- Chae, J., Kilgore, K., Triolo, R., Creasey, G.  
2000; 11 (1): 209-?
- **Electrical stimulation to restore respiration** *Engineering Foundation Conference on Neural Prosthesis - Motor Systems IV*  
Creasey, G., Elefteriades, J., DiMarco, A., Talonen, P., Bijak, M., Girsch, W., KANTOR, C.  
JOURNAL REHAB RES & DEV.1996: 123-32
  - **Tendon transfers and functional electrical stimulation for restoration of hand function in spinal cord injury** *JOURNAL OF HAND SURGERY-AMERICAN VOLUME*  
Keith, M. W., Kilgore, K. L., Peckham, P. H., Wuolle, K. S., Creasey, G., LeMay, M.  
1996; 21A (1): 89-99
  - **Tendon transfers and functional electrical stimulation for restoration of hand function in spinal cord injury.** *journal of hand surgery*  
Keith, M. W., Kilgore, K. L., Peckham, P. H., Wuolle, K. S., Creasey, G., LeMay, M.  
1996; 21 (1): 89-99
  - **SACRAL ROOT STIMULATION FOR SELECTIVE ACTIVATION OF THE CANINE BLADDER USING QUASITRAPEZOIDAL ELECTRICAL PULSES** *12th Symposium for Experimental Urology*  
Wipfler, G., Grunewald, V., Bhadra, N., CREASEY, G. H., Mortimer, J. T.  
GEORG THIEME VERLAG.1995: 13-15
  - **Review of sacral electrical stimulation in the management of the neurogenic bladder.** *NeuroRehabilitation*  
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1994; 4 (4): 266-274
  - **MOTILITY EFFECTS OF ELECTRICAL-STIMULATION OF THE PARASYMPATHETIC SUPPLY TO THE LEFT COLON AND ANORECTUM IN MAN**  
BINNIE, N. R., SMITH, A. N., EDMOND, P., CREASEY, G.  
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  - **STIMULATION OF ANTERIOR SACRAL NERVE ROOTS IN MAN - THE PROXIMAL EXTENT AND DIFFERENTIAL-EFFECTS ON COLONIC MOTILITY**  
BINNIE, N. R., EDMOND, P., CREASEY, G. H., SMITH, A. N.  
PLENUM PUBL CORP.1987: 903
  - **THE ACTION OF CIS-4-AMINO-5-CHLORO-N-METHOXYHEXAMIDE (CISAPRIDE) ON THE CHRONIC CONSTIPATION OF PARAPLEGIA**  
BINNIE, N. R., CREASEY, G., EDMOND, P., SMITH, A. N.  
W B SAUNDERS CO.1987: 1317
  - **DIFFERENTIAL-EFFECTS OF SACRAL ANTERIOR ROOT STIMULATION ON COLORECTAL MOTILITY IN SPINAL MAN**  
BINNIE, N., CREASEY, G., EDMOND, P., SMITH, A. N., VARMA, J. S.  
CAMBRIDGE UNIV PRESS.1986: P38
  - **DIFFERENTIAL-EFFECTS OF SACRAL ANTERIOR ROOT STIMULATION ON COLORECTAL AND PELVIC FLOOR MOTILITY IN MAN**  
VARMA, J. S., SMITH, A. N., CREASEY, G. H., EDMOND, P.  
HERMISTON PUBLICATIONS LTD.1985: 193
  - **MULTIPLE CASES OF BURKITT'S-LYMPHOMA AND OTHER NEOPLASMS IN FAMILIES IN THE NORTH MARA DISTRICT OF TANZANIA** *INTERNATIONAL JOURNAL OF CANCER*  
Brubaker, G., Levin, A. G., Steel, C. M., Creasey, G., Cameron, H. M., LINSELL, C. A., Smith, P. G.  
1980; 26 (2): 165-170