University of Colorado Movement Disorders Center: Past, Present and Future

Benzi M. Kluger, MD, MS
Director, Movement Disorders Center
Associate Professor of Neurology and Psychiatry
University of Colorado Denver
University of Colorado Movement Disorders Center (MDC)

• Established 2012

• Mission: “To establish an internationally recognized center for excellence in movement disorders related research, education, clinical care, and community outreach....”

• Strengths: History of excellence, growing faculty, geography, and an amazing PD community
The Past
Margaret “Peggy” Hoehn
# Hoehn and Yahr Scale: 1967

<table>
<thead>
<tr>
<th>Hoehn &amp; Yahr stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No visible symptoms of Parkinson's disease</td>
</tr>
<tr>
<td>1</td>
<td>Parkinson's disease symptoms just on one side of the body</td>
</tr>
<tr>
<td>2</td>
<td>Parkinson's disease symptoms on both sides of the body and no difficulty walking</td>
</tr>
<tr>
<td>3</td>
<td>Parkinson's disease symptoms on both sides of the body and minimal difficulty walking</td>
</tr>
<tr>
<td>4</td>
<td>Parkinson's disease symptoms on both sides of the body and moderate difficulty walking</td>
</tr>
<tr>
<td>5</td>
<td>Parkinson's disease symptoms on both sides of the body and unable to walk</td>
</tr>
</tbody>
</table>
Lori Ramig
Lee Silverman Voice Therapy: 1987

“Amplify your life...SPEAK LOUD!”

www.LSVTGlobal.com
Curt Freed, Bob Breeze & John Sladek
Dopamine Cell Transplants: 1980 - present

The New England Journal of Medicine

TRANSPANTATION OF EMBRYONIC DOPAMINE NEURONS FOR SEVERE PARKINSON’S DISEASE

Curt R. Freed, M.D., Paul E. Greene, M.D., Robert E. Breeze, M.D., Wei-Yann Tsai, Ph.D., William DuMouchel, Ph.D., Richard Kao, Sandra Dillon, R.N., Howard Winfield, R.N., Sharon Culver, N.P., John Q. Trojanowski, M.D., Ph.D., David Eidelberg, M.D., and Stanley Fahn, M.D.

ABSTRACT

Background Transplantation of human embryonic dopamine neurons into the brains of patients with Parkinson’s disease has proved beneficial in open clinical trials. However, whether this intervention would be more effective than sham surgery in a controlled trial is not known.

Methods We randomly assigned 40 patients who were 34 to 75 years of age and had severe Parkinson’s disease (mean duration, 14 years) to receive a transplant of nerve cells or undergo sham surgery; all were to be followed in a double-blind manner for one year.

AFTER several years of treatment with levodopa and other drugs,1 motor fluctuations ranging from bradykinesia to hyperkinesia develop in many patients with Parkinson’s disease. No drug therapy has eliminated these fluctuations. However, the implantation of embryonic dopamine neurons into the brain may improve motor control. We and others have reported that transplanted dopamine neurons survive and that patients may have progressive clinical improvement over a period of three to four years.2-21
Maureen Leehey

THE 2010 DISTINGUISHED ALUMNUS

Leehey said her first reaction was surprise when she found out she had won. “Then honored, very honored was my next immediate feeling because I had loved my medical school, and I remembered that I had many bright, wonderful colleagues,” she said. “I was even more honored when I looked up the accomplishments of the former recipients of this award.”

Leehey herself has a distinguished career as a leader in the field of movement disorders, in particular Parkinson’s disease and fragile X syndrome. She and her collaborators recently discovered the fragile X-associated tremor/ataxia syndrome (FXTAS), which affects about 1 in 10,000 men over age 50, especially grandfathers of children with fragile X syndrome.

She said she remembers medical school as an exciting, fulfilling time, where she was supported by administrators.

“I had two revelations in the initial months of my first year. The first was that I was luckier than many of my student colleagues and taught by our faculty—both of whom were extraordinarily smart and highly gifted. Being with them was not only intellectually exciting but also comforting—many of them were ‘nerds’ like me. This medical school experience was one I have always been grateful for.”

“The second revelation is that being a doctor was a very important position,” she added. “I heard the saying that you should not lie to your lawyer or your doctor. People put their trust in you, and you need to respect that. This is something I have always tried to do.”
Fragile X Tremor Ataxia Syndrome (FXTAS): 2001
Palliative care and neurology

Time for a paradigm shift

Isabel Boersma, MS
Janis Miyasaki, MEd, FRCP, MD
Jean Kutner, MD, MSPH
Benzi Kluger, MD, MS

ABSTRACT

Palliative care is an approach to the care of patients and families facing progressive and chronic illnesses that focuses on the relief of suffering due to physical symptoms, psychosocial issues, and spiritual distress. As neurologists care for patients with chronic, progressive, life-limiting, and disabling conditions, it is important that they understand and learn to apply the principles of palliative medicine. In this article, we aim to provide a practical starting point in palliative medicine for neurologists by answering the following questions: (1) What is palliative care and what is hospice care? (2) What are the palliative care needs of neurology patients? (3) Do neurology patients have unique palliative care needs? and (4) How can palliative care be integrated into neurology practice? We cover several fundamental palliative care skills relevant to neurologists, including symptom management, communication, and end-of-life care.
The Present
A Regional Leader

• The largest and most comprehensive movement disorders center in the Rocky Mountain Region

• We provide:
  – Multidisciplinary Clinical Care
  – Research Advances
  – Education
  – Community Outreach
Clinical Care
Our Clinical Team

- 4 Movement Disorders Neurologists
- Pediatric Movement Disorder Specialist
- 2 Neurosurgeons
- 4 Neuropsychologists
- Physical Medicine Rehabilitation Specialist
- Psychiatrist and Psychologist
- Nurse and Nurse Practitioners
- Genetic Counselors
- Integrative Medicine Clinic
- Physical Therapy, Occupational Therapy and Speech Therapy...
Clinical Care

• Access to clinical trials
• Individualized Care from Experts
• Specialty Clinics:
  – Ataxia
  – DBS
  – Palliative Care
  – PD
Research Advances
Research Advances

• Clinical Trials:
  – Medications, Surgery, Alternative Therapies
• Non-motor Symptoms
• Neuroimaging
• Exercise
• Genetics
• Cell Transplantation
• Basic Science...
Education
Education

• We’ve trained 10 fellows and are now training 2 fellows per year.
• Involvement in neurology residency training and medical school
• Provide research experiences for numerous undergraduate, graduate and medical students
Community Outreach
Community Outreach

• Partnership with Michael J Fox Foundation
• Partnership with the Parkinson’s Association of the Rockies (PAR)
• Partnership with Parkinson Disease Foundation’s Parkinson’s Advocates In Research (PAIR) program
• Numerous lectures to support groups
The Future
Our Vision

• To achieve national center of excellence recognition
• To build and expand on going research programs
• To create patient-centered interdisciplinary clinics
• To expand care to other areas (Boulder, Colorado Springs, Fort Collins)
• To innovate novel community programs including rural outreach
A Comprehensive Free Standing Center