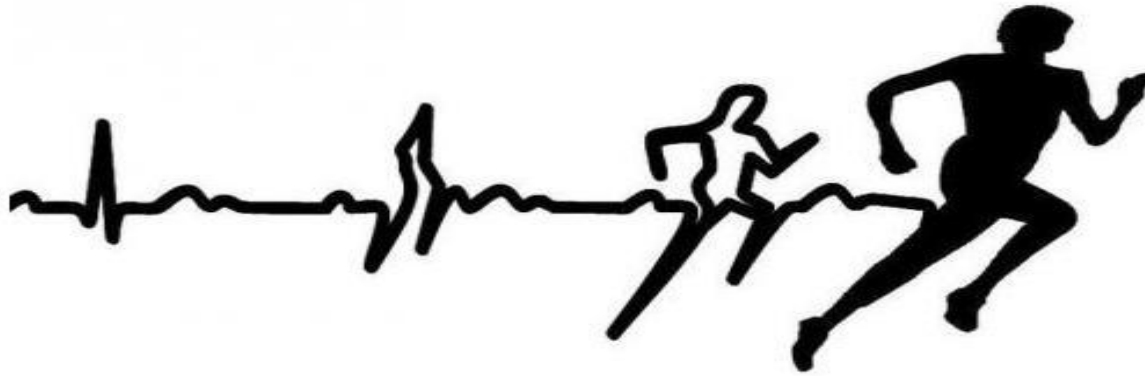


Exercise is Medicine

Prescribing Exercise in a Busy Clinical Practice



Robert E. Sallis, MD, FAAFP, FACSM

Partner Emeritus
Family Medicine & Sports Medicine
Kaiser Permanente Medical Center
Fontana, California, USA

Chief Medical Officer
LA Football Club
Team Physician
LA Clippers

Clinical Professor
Family Medicine
Kaiser Permanente
School of Medicine



Conflict of Interest Disclosure

Robert Sallis

- Has no actual or potential conflict of interest in relation to this presentation
- Will be discussing the use an off-label and unapproved drug called Exercise in this presentation

A Fable...

Once upon a time, in a land not very far away, there was a community located on the banks of a river. The citizens were distressed because so many people were drowning in the river.



A Fable...

So, they developed ambulance speed boats, impressive resuscitation procedures and intensive care units. Sometimes the rescues worked, but more often they did not. Either way, their heroic efforts fully occupied the citizen's time, attention and resources.

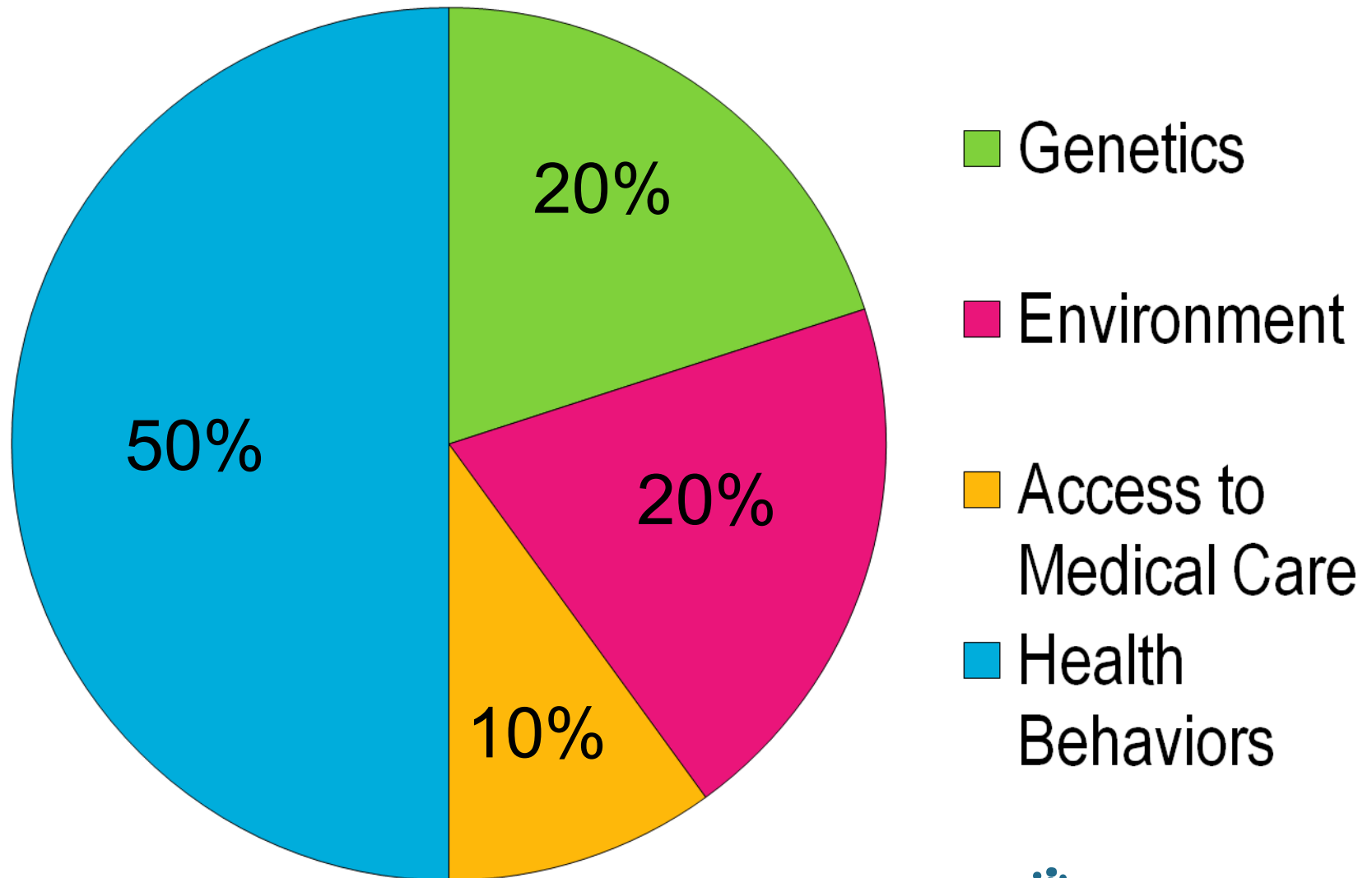


A Fable...

Then one day
someone asked;
“What’s going on
upstream... and why
don’t we teach these
people to swim?”

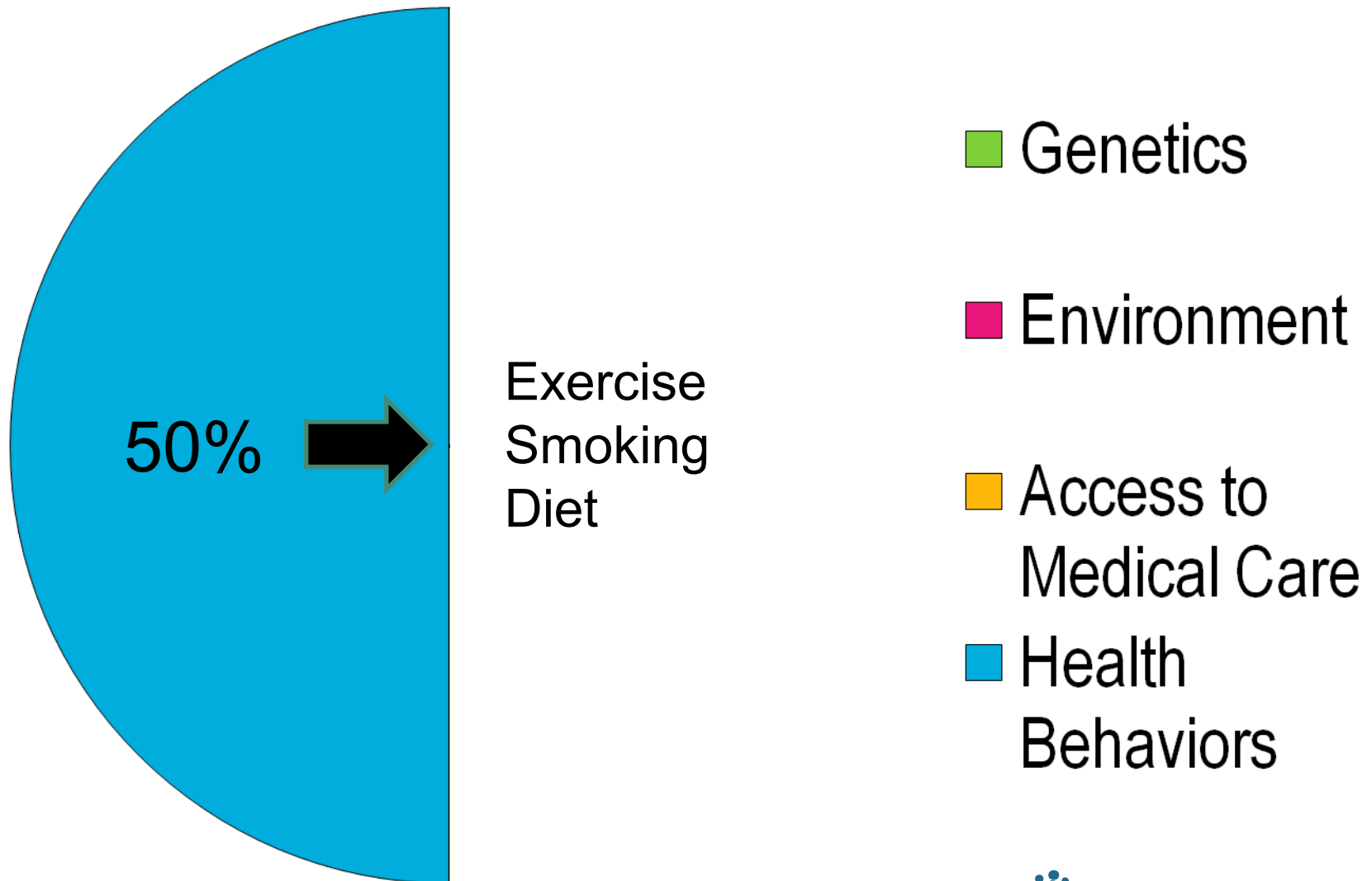


Contributors to Overall Health Status; The Power of Health Behaviors



Source: CDC 2000

Contributors to Overall Health Status; The Power of Health Behaviors



Source: CDC 2000

Exercise and Health

- Physical inactivity has an astonishing array of harmful health effects
- Exercise is a powerful tool for both the treatment and prevention of chronic disease and obesity, as well as premature death
 - There is a linear relationship between physical activity and health status
 - The association between disease and an inactive and unfit way of life persists in every subgroup of the population
- Physical inactivity is THE major public health problem of our time

THE LANCET

“In view of the prevalence, global reach and health effect of physical inactivity, the issue should be appropriately described as *Pandemic*, with far-reaching health, economic, environmental and social consequences”

“In view of the prevalence, global reach, and health effect of physical inactivity, the issue should be appropriately described as pandemic, with far-reaching health, economic, environmental, and social consequences.”

Physical Activity

July 2012

Boris Lushniak, MD, MPH

Acting United States Surgeon General



U.S. Department of Health & Human Services



Office of the Surgeon General

ACSM Annual Meeting
Orlando, Florida; May 30, 2014



KAISER PERMANENTE®

THE LANCET

“We Urge all sectors of government and society to take immediate, bold actions to help make active living a more desired, affordable, and accessible choice for all population groups”



“We urge all sectors of government and society to take immediate, bold actions to help make active living a more desired, affordable, and accessible choice for all population groups.”

A Series by The Lancet

July 2016

Irrefutable Evidence for Exercise in the Primary and Secondary Prevention of:

- Diabetes mellitus
- Cancer (breast and colon)
- Hypertension
- Depression
- Osteoporosis
- Dementia
- Coronary Artery Disease
- Lower death rate from all causes

What Can We Do?

- Exercise Rx initiative:
 - Every patient; Every visit;
Every treatment plan
- Physical activity should be recorded as a vital sign and patients advised to get 30 min of mod exercise, 5 days per wk
- Message should be the same from every medical provider
- We must begin to merge the healthcare industry with the fitness industry



Goal:

- To make physical activity assessment and exercise prescription a standard part of the disease prevention and treatment paradigm for all patients

Exercise
is **Medicine**®

AMERICAN COLLEGE
of SPORTS MEDICINE®

Smith, John W

MRN 000017701887 Age 30 year Sex M PCP Spero, Robert David (M.D.) Allergies Sulfa Class, Acarbose, 5-alpha Reductas* Alert Spec Feat N kp.org Inactive

SnapShot

Chart Review

Flowsheets

Problem List

History

Letters

Demographics

Proactive Care

Order Entry

Imm/Injections

Allergies

Medications

Activity Rx/Forms

Forms

Enter/Edit Results

Doc Flowsheet

Visit Navigator

4/22/2009 visit with TEST DUMMY MD

Images Questionnaires Admin Benefits Inquiry References SmartSets Open Orders Preview AVS Print AVS

Allergies: Sulfa Class, Acarbose, 5-alpha Reductase Inhibitors, Acetaminophen + Propoxyphene Napsylate Reviewed on 2/27/2009

Last Vitals: BP: 120/80 P: 60 T: T Src: Resp: 22 W: 190 lbs (86.183 kg) H: 5' 10" (1.778 m)

BMI: 27.26 kg/m2, BSA: 2.06 m2 Exercise Vitals: 180 mins/wk

Height 5' 10" (1.778 m)

Peak Flow

Charting

Chief Complaint

Nursing Notes

Vitals

Exercise Vitals

Review Exercise VS

Med. Document

BestPractice

History

Progress Note

SmartSets

Dx and Orders

Pt. Instructions

LOS

Follow-up

Close Encounter

Exercise Vitals - Exercise Vitals (SHIFT+F6 to enter comments)

Instant Taken:

Date: 4/30/2009

Time: 1149

Exercise Level of Effort

Days per week of moderate to strenuous exercise (like a brisk walk)

0 1 2 3 4 5 6 7

On average, minutes per day of exercise at this level

10 20 30 40 50 60 90 120 150 or greater

Restore Close F9 Cancel

Previous F7 Next F8

Review Exercise Vitals

Mark as Reviewed Last Reviewed by SHARMA, PANKAJ on 4/24/2009 at 12:36:26 PM

Medication Documentation

Current Prescriptions	Taking?	Start Date	End Date
ATENOLOL 100 MG ORAL TAB TAKE 1 TABLET ORALLY DAILY		4/29/2009	
ATENOLOL 100 MG ORAL TAB 1 TAB PO DAILY		4/29/2009	5/29/2011

Provider: William Lewis (M.D.) Sperling

Hotkey List

Exit Workspace

Navigator Hotkeys

What Can Busy Physicians Do to Encourage Physical Activity?



0 Minutes:

-  Running late? Too many other concerns on the patient's list? Relax! Plan to discuss physical activity at next visit. Hopefully office staff will have assessed exercise and provided resources.

1 Minute for Advice:

-  Quickly congratulate patients who are getting 150 minutes or more of moderate or greater physical activity.
-  Advise patients who are getting fewer than 150 minutes of the importance of physical activity, especially linking benefits to patient's complaints, problems, and diagnoses.

Write a walking Rx for patients!



KAISER PERMANENTE®

Name: John W. Smith Age: 30

Walking **R_x**

Date: _____

Recommended activity level: Moderate

Minutes per day: 30 minutes

Number of days per week: 5 or more

Intensity: Hard enough that you can't sing,
but not so hard you can't talk during exercise.

Stop: If you experience chest pain,
excessive shortness of breath or feel ill.

Signature: Robert Sallis, MD

Every Body
WALK!
www.everybodywalk.org



KAISER PERMANENTE®

What Can Busy Physicians Do to Encourage Physical Activity?



🕒 2 Minutes for a Prescription:

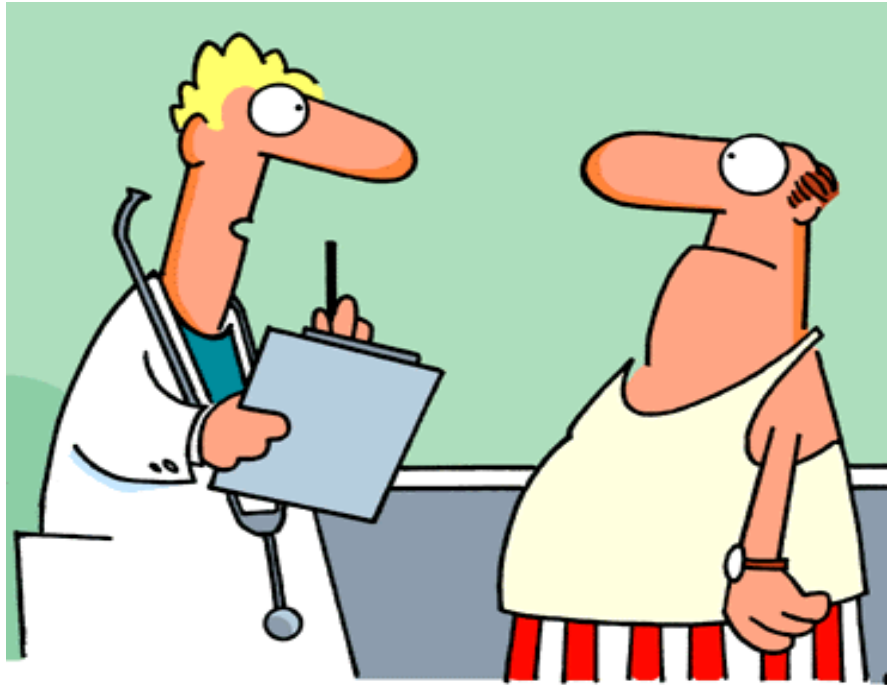
- 🕒 Review key messages about the importance of physical activity.
- 🕒 Offer a generic Exercise Prescription.
- 🕒 Suggest useful resources (e.g. Wellness Coaches by phone, pedometer, chair exercises, community resources, fitness professional).

🕒 5 Minutes for Brief Counseling:

- 🕒 Assess readiness for change regarding exercise habits.
- 🕒 Ask what the patient might want to do to be more active and barriers to prevent this from happening -- brainstorm on how to get around them.
- 🕒 Explain in detail how exercise can affect diseases they have or are at risk for and how they can go about incorporating it into their life.

Common Barriers to Exercise

- Competing demands (work/kids/spouse)
- Not enough time
- Too tired
- Physical limitations
- Too boring
- Sedentary habits



“What fits your busy schedule better, exercising ½ hour a day or being dead 24 hours a day?”

Breaking Down the Barriers

- Make exercise a habit, not an option.
- 150 min per week is goal – not starting point; so start small:
 - 1-2 days per week
 - Three 10-min bouts.
- Simple recipe for getting your exercise:
 - AM; park car 10 min from office, walk in
 - Lunch; walk 5 min out, eat, walk back
 - PM; Walk 10 min back to car

Breaking Down the Barriers

- Make weekends count!
 - Change mindset; weekends are for fitness
 - Walk 60 min on Sat or Sun, only need 90 more minutes during week
- Bump up the intensity!
 - 25 min of vigorous exercise (jog) done 3x per week
 - 30 min of moderate (brisk walk) done 5x per week
- More ideas:
 - Find an exercise partner
 - Get good shoes and nice workout clothes
 - Set goals (fun run, sprint triathlon)
 - Mall Walking in unsafe neighborhoods

Clinicians need help!

How do we integrate fitness into healthcare?

- I need something beyond telling my patient to go walk!
- Components of fitness
 - CV fitness
 - Strength
 - Flexibility
- Need to be able to refer
 - Health Club and Fitness professional
 - EIM Solution



The Claremont Club

- Founded in 1973
 - Primarily as tennis club.
 - Small fitness component.
- *Mike Alpert* joined the club in August of 1997.
- Vision to Transform the Club
 - Actively promote health & wellness.
 - Helping people struggling with injury and illness.



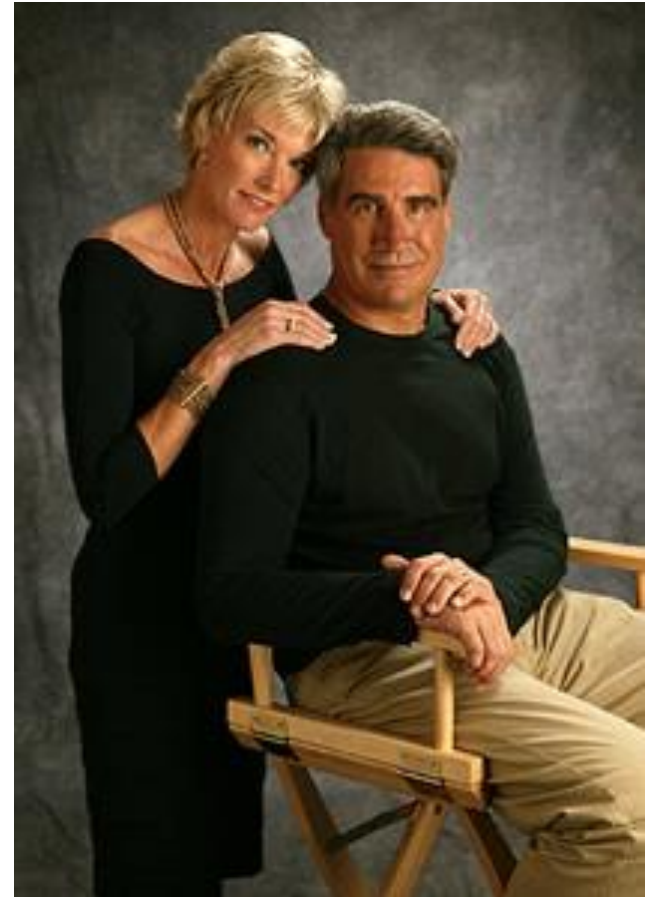
Created Programs for Patients

- Breast cancer
- Parkinson's and MS
- Stroke
- Cerebral Palsy
- Prostate and other cancers
- Pediatric Cancer
- Diabetes
- Spinal Cord Injury (Project Walk)



The Augie Nieto Story

- Icon in the fitness world.
- Founder and former owner of Life Fitness.
- Former owner of Hammer Strength.
- Sold companies in 1999 to Brunswick Corp for \$325 Million.



Augie Diagnosed with ALS 2005

- Started with weakness in legs and stumbling.
- Rapidly progressed despite all medical treatments.
- Saw countless specialists.
- No good treatment and little hope.
- Depression and suicide attempt.

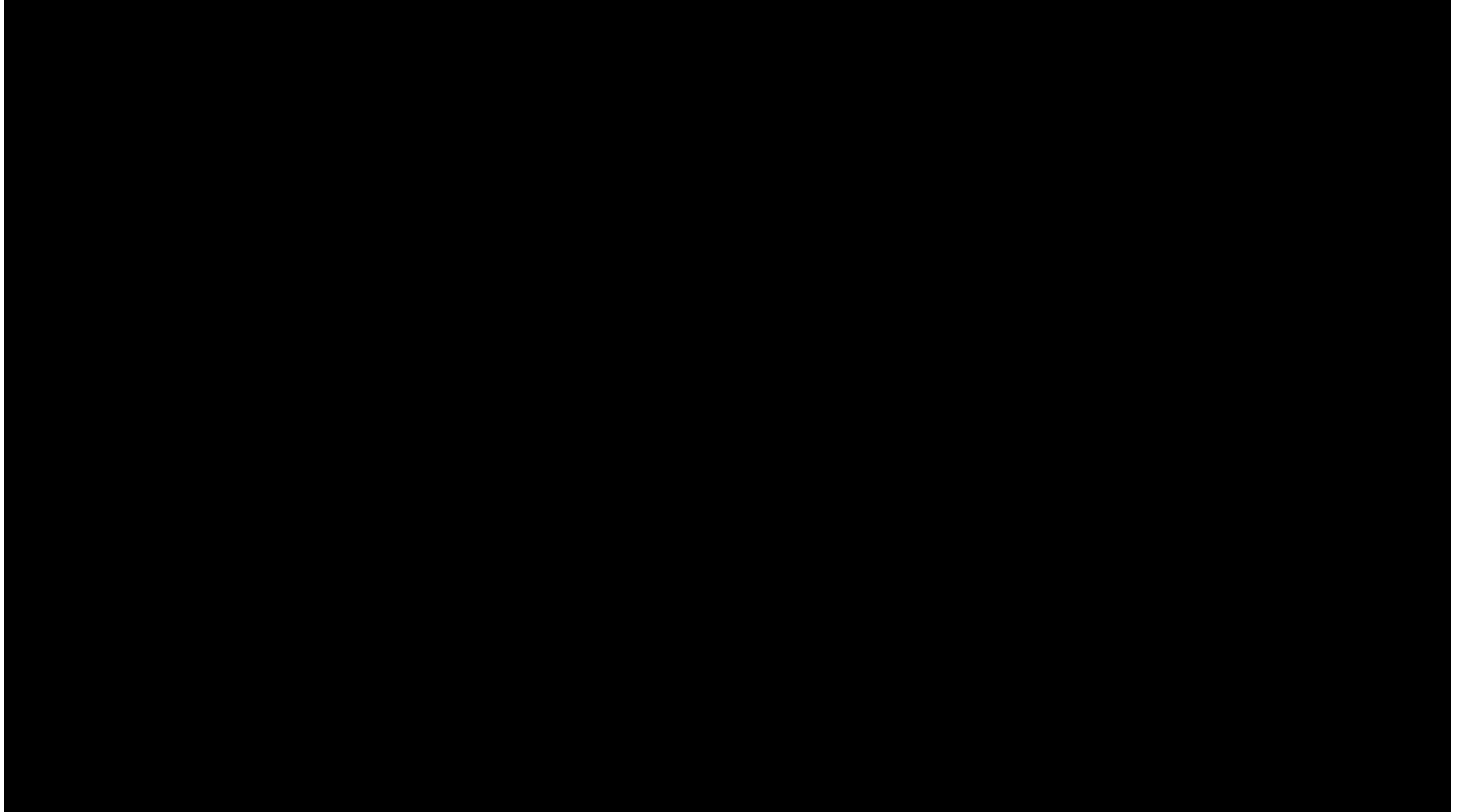


Can Exercise Help ALS?

- Augie heard about Project Walk at The Claremont Club
- No good studies to prove it
- There were concerns:
 - Respirator & feeding tube
 - Might injure Augie
 - Communication issue
- Give it a try



Augie back in the gym at The Claremont Club



The results were amazing...

- Dramatic improvements in strength and endurance
- Able to whisper to his wife for the first time in 8 years
- Depression lifted – felt hopeful again
- Was able to walk his daughter down the aisle at her wedding using a standing frame



Augie out for a bike ride...



Cycling with Parkinson's Disease (Snidjers, NEJM 2010)

Video 1

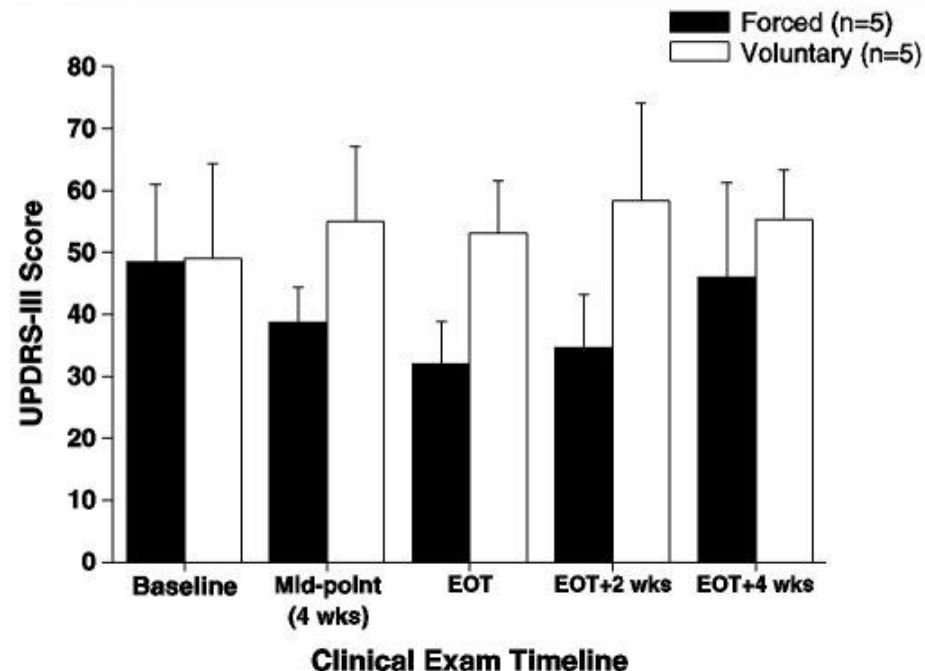
Dr. Jay Alberts

- Cleveland Clinic scientist who studies Parkinson's Disease
- In 2003 rode a tandem bike across Iowa with friend who has PD
- Saw dramatic improvements in his symptoms with less tremor and improved writing
- Led to studies using cycling to treat PD



High Cadence Cycling improves Parkinson's Disease Symptoms

- 10 mild to moderate PD pts did 8 wks (three 1-hr sessions at Forced (~85 rpm) or Voluntary (~60 rpm) intensity
- Used blinded Unified Parkinson's Disease Rating Scale III (UPDRS III)
- Forced group improved 35% from baseline; No change seen in Voluntary Group



Theracycle

Spin Class for Parkinson's Patients at the Claremont Club



Spinning for Parkinson's Disease

- Enrolled 13 patients with Parkinson's disease in a 12 week long spin class
 - 9 Men and 4 Women
 - Age ranged from 47-89 yrs; Mean age 69.8 yrs
- Met 3 days per week (Mon-Wed-Fri) at 11 AM at the Claremont Club spin studio with an instructor
- Each session lasted 45 min and subjects were encouraged to spin at a pace of 85-90 RPM

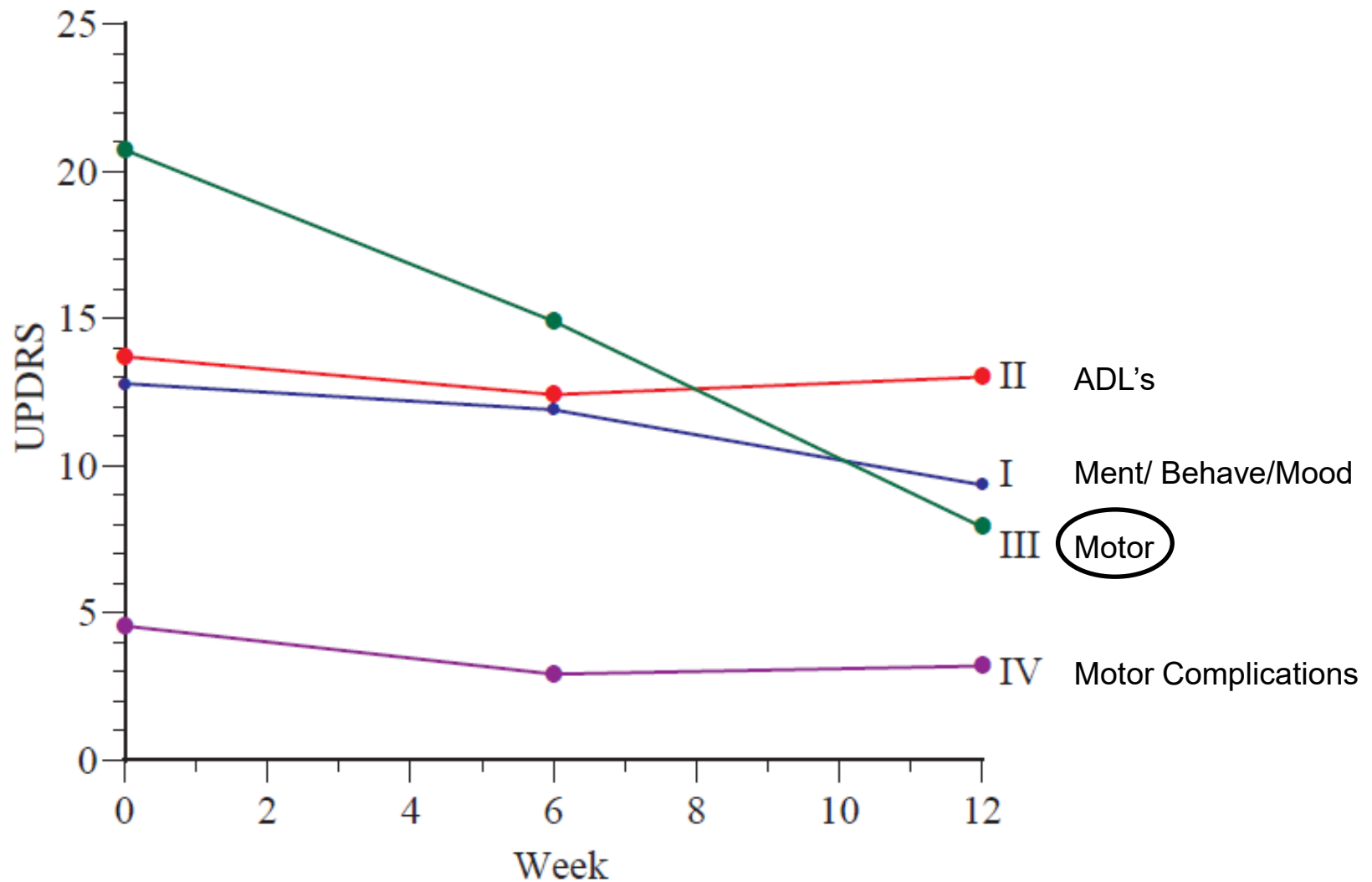
Spinning for Parkinson's Disease

- All patients had mild to moderate PD and all but one were on Levodopa
- 11 of 13 subjects completed the full 12 week spinning trial
- Subjects were assessed using the Unified Parkinson's Disease Rating Scale (UPDRS) at the start of the trial, at 6 weeks and again at 12 weeks
- All assessments were done by the same physician (sports medicine fellow)

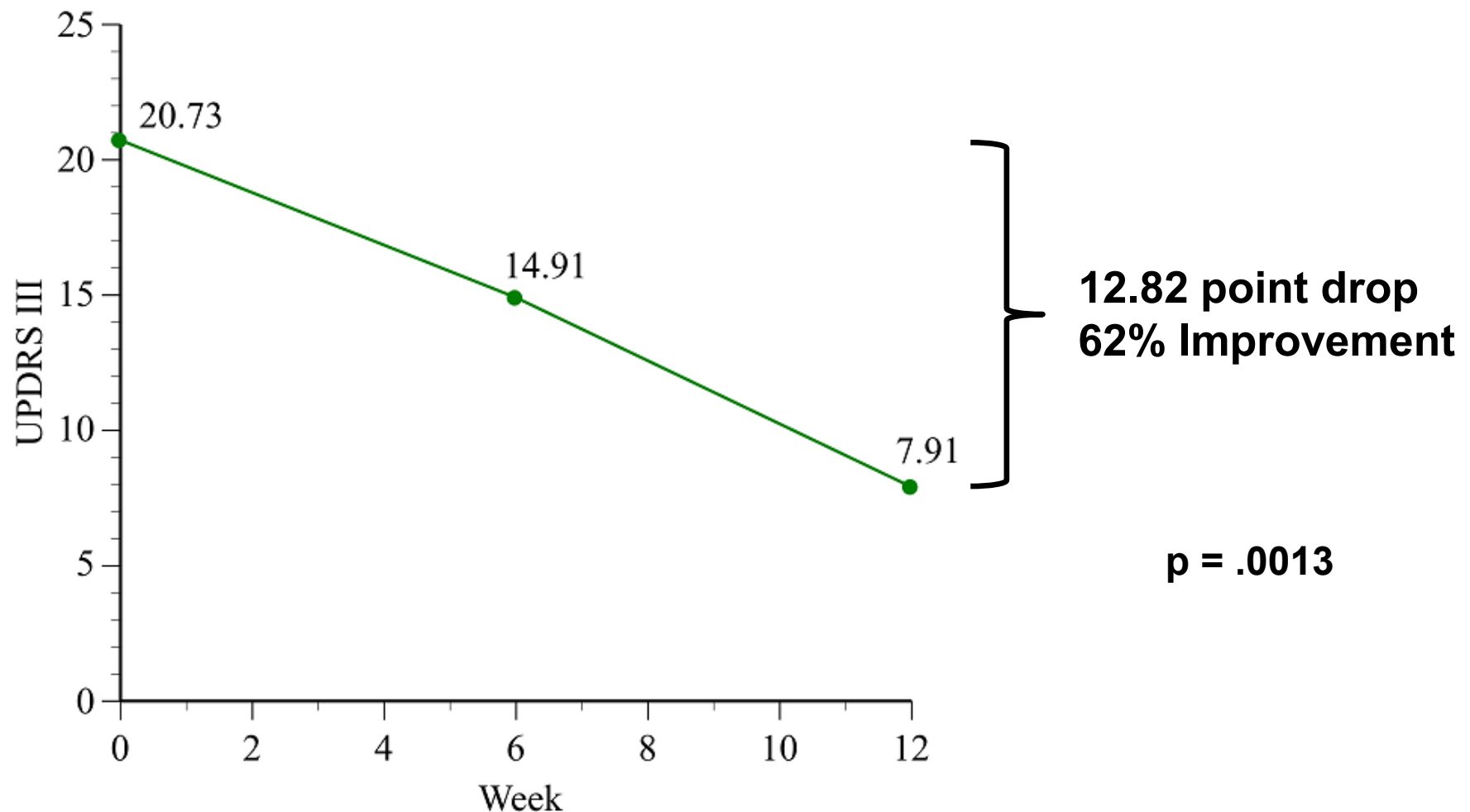
Unified Parkinson's Disease Rating Scale

- Validated rating tool used to gauge the course of Parkinson's disease in patients to evaluate progression of disease, treatment and for research
- Consists of 4 segments evaluated by medical pro:
 - 1. Mentation, Behavior and Mood
 - 2. Activities of Daily Living
 - 3. Motor Examination
 - 4. Motor Complications
- Max score is 199 (worst disability) and lowest score is 0 (no disability)

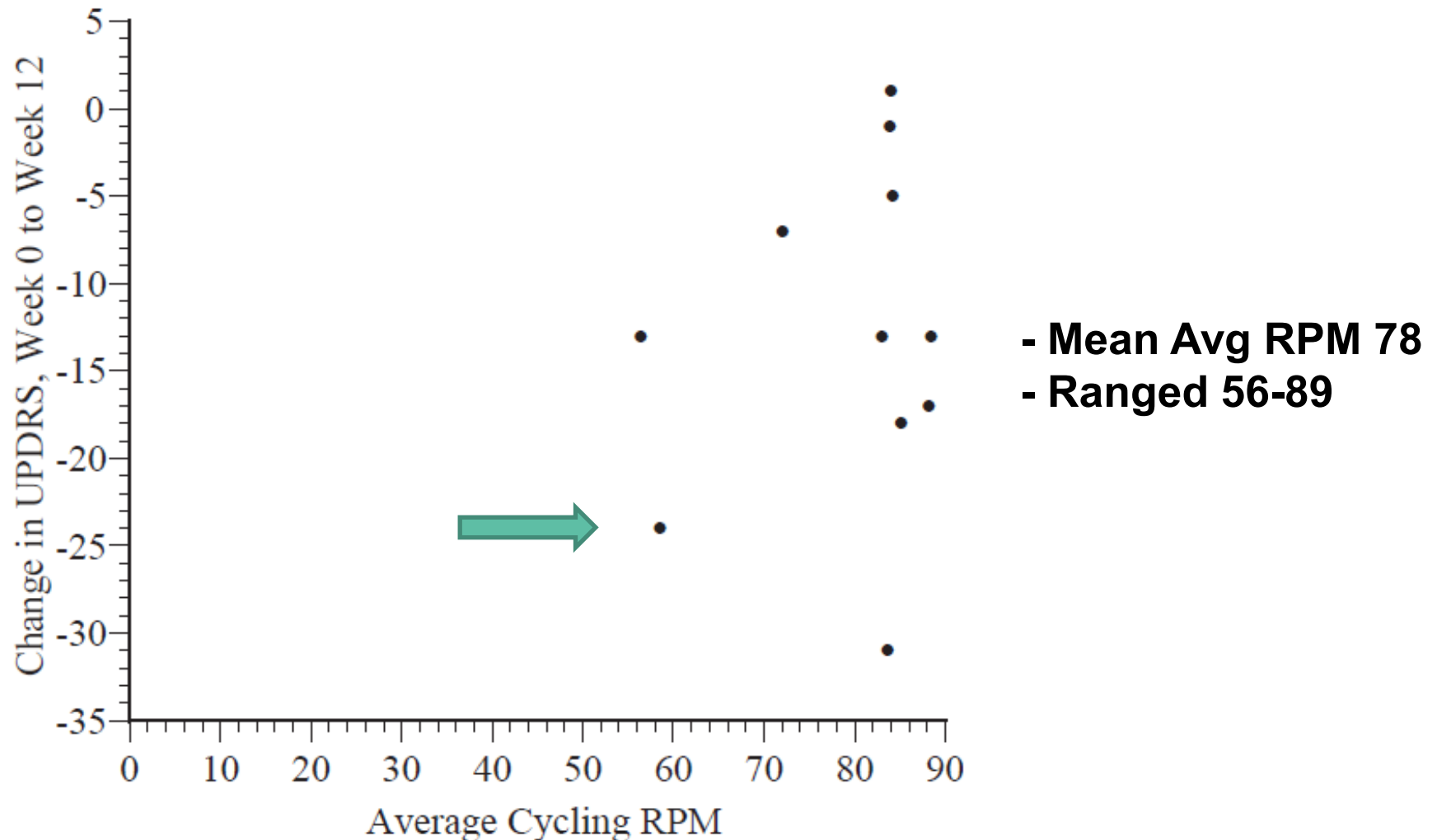
UPDRS I-IV Results



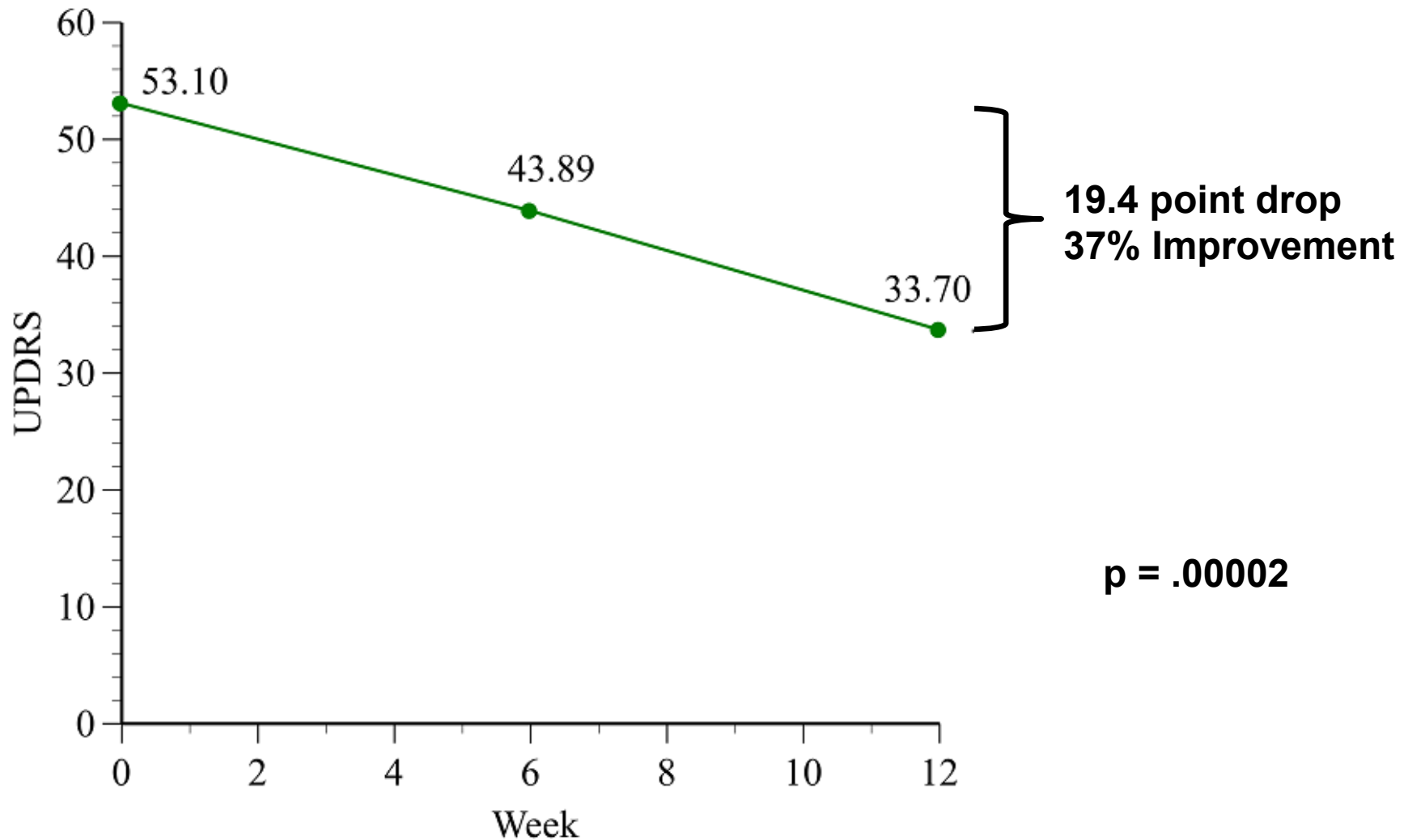
UPDRS III (Motor) Results



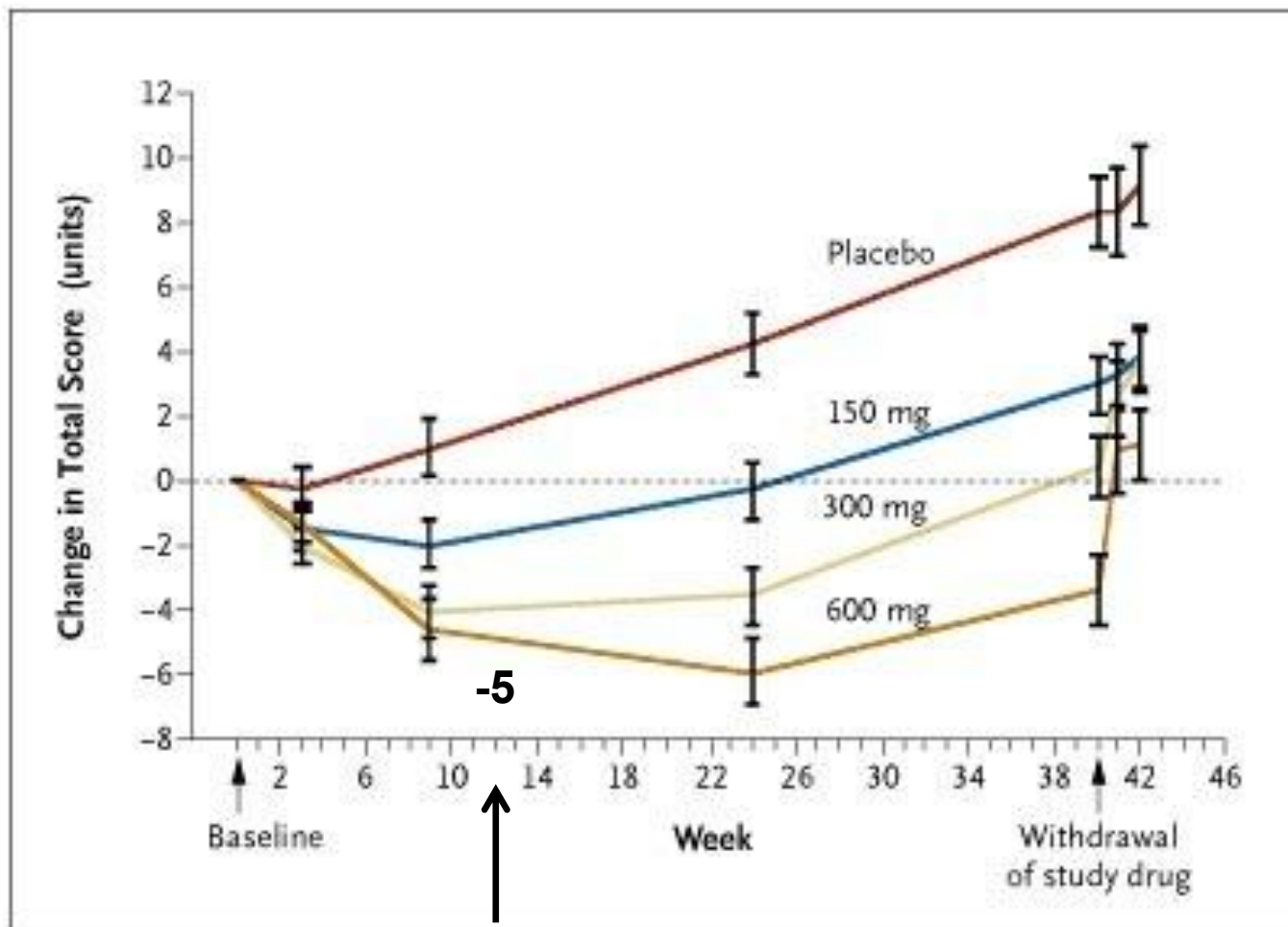
Average Spin RPM and Change in UPDRS from Week 0-12; No Significant *Relationship*



Total UPDRS Results



Change in Total UPDRS Scores with Varying Doses of Levodopa



Parkinson's Study Group, NEJM, 2004

Study Conclusions

- Results limited by small sample size
- ALL the UPDRS average scores improved in this study
- Over the 12 week period, the average subject's score improved in 39 of the 50 categories of the UPDRS ($p = .000100$)
- The average diastolic BP decreased by 11.09 mmhg
- All 11 subjects wished to continue these workouts

Summary

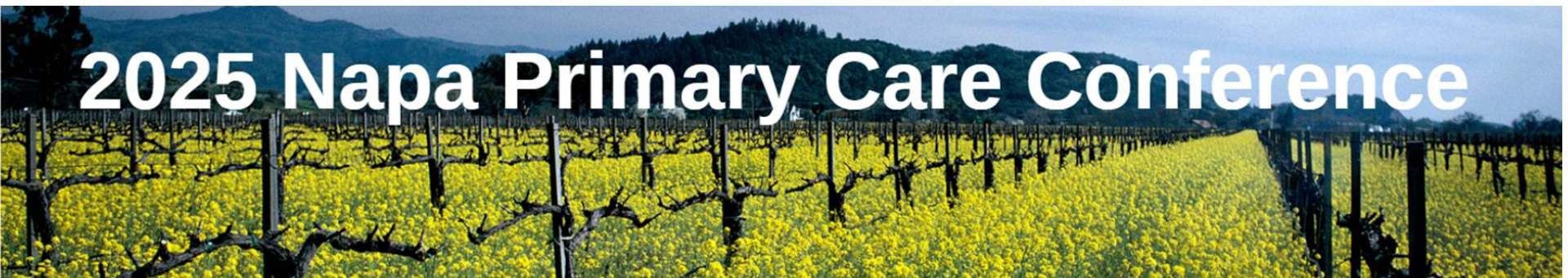
- Benefits of exercise in treatment and prevention of chronic disease are irrefutable.
- The KP Exercise Vital Sign has been shown to be predictive of a variety of chronic diseases and utilization of services.
 - Even brief advice can have a significant affect on getting patients more active.
 - Where time allows, consider formal exercise Rx or referral to health coaching.
- Exercise is Medicine that you should take AND prescribe to your patients!



It's time to get off the couch...



Questions?



2025 Napa Primary Care Conference