The Overwhelming Burden of Musculoskeletal Diseases, Disorders and Injuries in Our Nation and in Our Community

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Speaker Qualifications

- Member Diversity Advisory Board AAOS
- Faculty Member CDU
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- Past President J. Robert Gladden Orthopedic Society

No Disclosure
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Goals and Objectives of this Presentation

• Discuss the **significant** burden of musculoskeletal disease in this Country and in our Community.

• Give **examples** of the wide range of orthopedic conditions seen in our Community.

• Discuss possible **solutions** to addressing the burden.
Background

Musculoskeletal Disorders and Diseases

Leading cause of disability in the United States
The Economic Impact is Staggering

In 2004, the sum of the direct expenditures in health care costs and the indirect expenditures in lost wages for persons with a musculoskeletal disease diagnosis was estimated to be 849 billion dollars or 7.7% of the National Gross Domestic Product at the time. This percentage is believed to be unchanged in 2017. In 2011, it was 796.3 billion or 5.7% of the Annual 6DP.
• 54 of every 100 persons in the U.S. over the age of 18 years reported suffering a musculoskeletal condition in 2012.

• 1 in 8 persons reported a loss in workdays because of a musculoskeletal condition.

• 12-14% of the Adult Population in any given year will visit their doctor because of back pain.

• Musculoskeletal Diseases account for greater than 50% of disabling health conditions reported by adults.
Background (continued)

Cerebral palsy
Musculoskeletal diseases and disorders

• **Major problem** - Musculoskeletal Injuries
• **Huge burden on the United States Healthcare system**
Numerous Databases estimate that, a consistent 60 to 67% of injuries that occur annually, involve the musculoskeletal system.

In 2005, persons in the civilian non-institutionalized population self-reported 20.2 million musculoskeletal injury episodes in the National Health Interview Survey.
Musculoskeletal Injuries by Type

(Most frequent to less frequent)

- Sprains and Strains (38%)
- Fractures (22%)
- Open wounds (17%)
- Contusion (14%)
- Dislocations (8%)
Background (continued)

Car Accident Injury
Most Common Mechanism → Falls

- Leading cause of nonfatal injuries
- The leading cause of death.
- Leading cause of hospitalizations among persons of all ages.
Bone and Joint Decade

In March 2002 President George W. Bush proclaimed years 2002-2011 as the United States Bone and Joint Decade in recognition of the significance of this issue to the Country.
Contention

• Musculoskeletal Care is Primary Care.

• All Primary Care Physicians are Musculoskeletal Care Physicians (to some degree)
In underserved areas, it is notable that there is a paucity of musculoskeletal specialists to take care of the demand.
AIM 2

SPA6

is the most medically underserved population by designation in this country
While primary care, physical medical doctors, podiatrists and emergency medicine doctors participate in the care of musculoskeletal disorders and diseases.

The Orthopedic Surgeon is the primary care giver for both Operative Musculoskeletal conditions and Injuries and non-operative care.
AIM 4

- Orthopedic Surgeons comprise only 4% of the medical doctors in this country.

- The Orthopedic Surgeon typically uses medical, physical, and rehabilitative methodology as well as surgery in providing health care pertaining to the Musculoskeletal System.
• MLK Hospital

• MLK Outpatient Center

• Physical Therapy Unit
Orthopedic Surgeons Numbers Comparison to Other Communities

• Torrance
  Torrance Memorial Medical Center
  (Number of Orthopedic Surgeons: ~ 50)

• Los Angeles
  Cedars Sinai Medical Center
  (Number of Orthopedic Surgeons: ~ 50)

• South Los Angeles
  Martin Luther King, Jr. Community Hospital
  (Number of Orthopedic Surgeons: 7; no elective surgery)
Subspecialty Areas of Orthopedics

1. General Orthopedics
2. Pediatric Orthopedics
3. Spine Surgery (reconstructive)
4. Hand and Upper Extremity
5. Foot and Ankle
6. Orthopedic Trauma
7. Orthopedic Oncology
8. Sports Medicine
9. Military Orthopedics
10. Adult Reconstruction and Joint Preservation
Special Areas in Musculoskeletal Disease

- Osteoporosis
- Osteoarthritis
Osteoporosis

Silent Disease

• Characterized by low bone mass due to a loss of bone generally associated with the aging process.

• By 2020 it has been estimated that over 61 million people will be at risk for low energy fractures secondary to osteoporosis. (It occurs in our Community as well)

• The economic burden of inpatient outpatient and long term care of osteoporotic fractures in the United States is estimated to cost 474 billion dollars by 2025.
Osteoporosis (continued)

• **Definition:**
  - ✓ *Osteoporosis*: BMD value > 2.5 SD below average value for a young healthy woman.
  - ✓ *Osteopenia* or Low Bone Mass -1.0 to -2.5 SD

• **Recognition:** Age, Sex, Racial Make-up, Fragility Fractures

• **Diagnostic Test:** Dual Energy X-ray Absorptiometry (DEXA)

• **Treatment:** Mainstays, medications

• **Prevention:** Calcium, Vit. D, Exercise, Physical Therapy Proprioception (Balance Training)
Osteoarthritis

• **Prevalence:**
  - 2003 – 2005: Arthritis and Other Rheumatologic Conditions in the USA among Adults = 21.6% or 46.4 million People (increase percentage with age)
  - By 2030: Projected to affect 25% of U.S. population

• **Treatment:**
  - Mainstays Medications - Acetaminophen, NSAIDs, DMARDs (For inflammatory disease) Tumor necrosis factor-alpha
  - Education for Self Management
  - Physical Activity (Including Physical Therapy) Weight Loss
Osteoarthritis in Major Joints

• There are well documented racial disparities in receiving total joint replacement for end stage arthritis.

• By 2020 it is estimated that one million knee and 600,000 total hip replacements will have been performed.
African Americans and Latinos have been reported in various studies as having a 60-75% less likelihood of receiving a total hip or knee replacement than their Caucasian counterparts with similar disease.
Osteoarthritis in Major Joints (continued)

• Total Hip and Knee Replacements
  
  • Torrance Memorial Medical Center = 1,700 (2016)
  
  • Cedars Sinai Medical Center = 10,000 (2011-2015)
  
  • Martin Luther King, Jr. Community Hospital = 0
Robotic Total Knee Replacement
92 years old illegal Hispanic woman with hip fracture
25 year old male with left shoulder amputation after a gunshot wound and failed revascularization
Patient Cases and Reports (continued)

67 years old African American woman needing a Total Knee Replacement
25 years old Hispanic male who needs an ACL Reconstruction to the right knee after an ACL injury
The Human Toil in terms of diminished quality of life is immeasurable and will be intensified by the aging of this population, the epidemic of morbid obesity and uncontrolled D.M. and the overarching effects of Poverty.
The need for Adequate Musculoskeletal Care in our community is grossly underestimated.

The need for Musculoskeletal Care Physicians and Surgeons is just as great as the need for Primary Care Physicians.
• Approximately 1.4 million people

• Estimated Musculoskeletal Complaints with 90,000 ED visits

• Estimate Musculoskeletal Injury Rate = 60% of Injuries
Conclusion

Spa 6 is woefully short of Musculoskeletal Doctors and Surgeons!
Future Recommendations
(Medical Student)

• Survey of Medical Students reveal 90% feel inadequate in training in musculoskeletal care

• Recent Letter from AAOS asking AAMC to recommend increasing musculoskeletal training in Medical School Curriculum

Increase Education on Musculoskeletal Care in Medical School
Future Recommendations
(Residency: Primary Care)

Adequate Musculoskeletal Training in the Primary Care Residency Programs:

• Family Medicine
• Pediatrics
• ObGyn
• and Internal Medicine
Future Recommendations
(Residency: Orthopaedic Surgery)

Restarting
The Charles R. Drew University Orthopedic Residency Training Program

Will be the only Orthopedic Residency Training Program in SPA 6
Future Recommendations (MLK Community Hospital)

Resource Hospital to provide Elective Orthopedic Surgical Procedures (i.e. Total Joint Replacement, Elective Spine Surgery)
• Jie Chen, John A. Rizzo, Shreekant Parasuraman, Candace Gunnarsson. Racial Disparities in Receiving Total Hip/Knee Replacement Surgery: The Effect of Hospital Admission Sources.


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Thanks

Q&A