Constellation Energy®

Our “Chronologically Gifted” Workforce

The way energy works.™

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January 2011

Overview

- Brief overview of Constellation Energy and age distributions
- Aging – Positives and Negatives
- The United States problem
- Constellation's actions to anticipated challenges
- Lessons learned thus far

Constellation Energy

- Primarily power distribution, transmission, and generation company
  - Operator and part-owner of ACE Cogen (Cal/OSHA VPP) – 108MW Coal Fired Power Plant
  - Fortune 200 company (rank - 149)
  - Coal, Biomass, Natural Gas, Wind, Hydroelectric, Nuclear Power Plants
  - 15 billion in revenue in 2009
  - Headquartered in Baltimore, MD
  - Plants across the United States
  - 4 VPP Sites

Age Distributions for Constellation Power Generation

Age Group	Average % per Group 2006-2010
20-29	**8.2%**
30-39	**10.5%**
40-49	**31.2%**
50-59	**43.5%**
Above 60	**6.6%**
TOTAL	**100%**

38% of Constellation's workforce is eligible to retire by 2014

United States: Percentage of workers ages 65-74 will increase 84% between 2006-2016

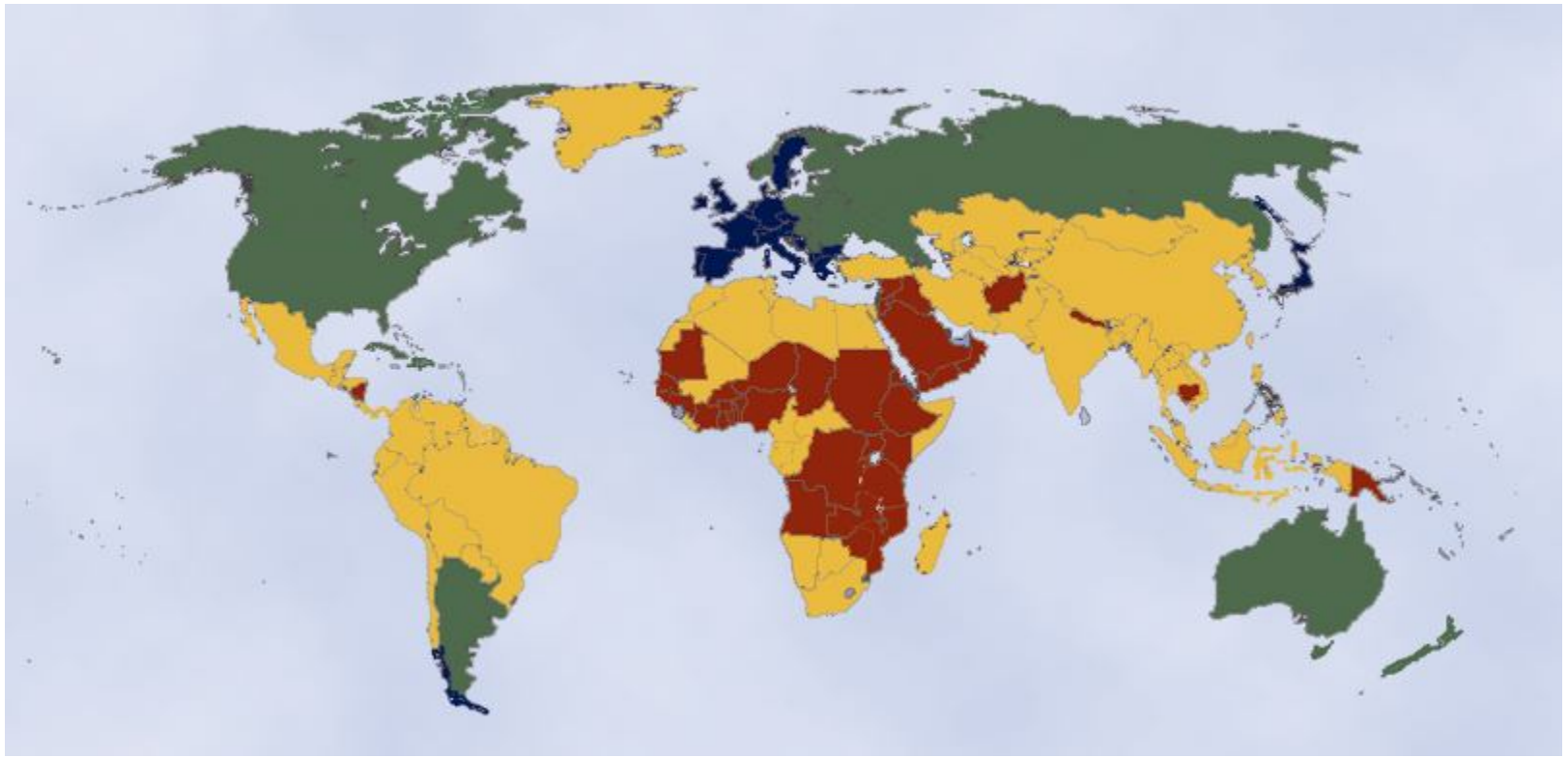
What Happens When We Age?

- Physical
  - Decrease in muscle mass
    - Between ages 50-60 approximately 15%-25% of strength is lost in comparison to peak strength at 25-35
  - Decrease in O_2 uptake
  - Above factors (and others) require most older workers to work closer to physical capacity
- Psychological – (source: National Research Study 2004)
  - Cognition speed
    - Information retrieval slower, unless material is familiar
  - Learning and recall slower, but equally successful in the end
  - Greater retention, higher learning achievement and more likely to complete a new field of study than younger workers

Question for the Audience

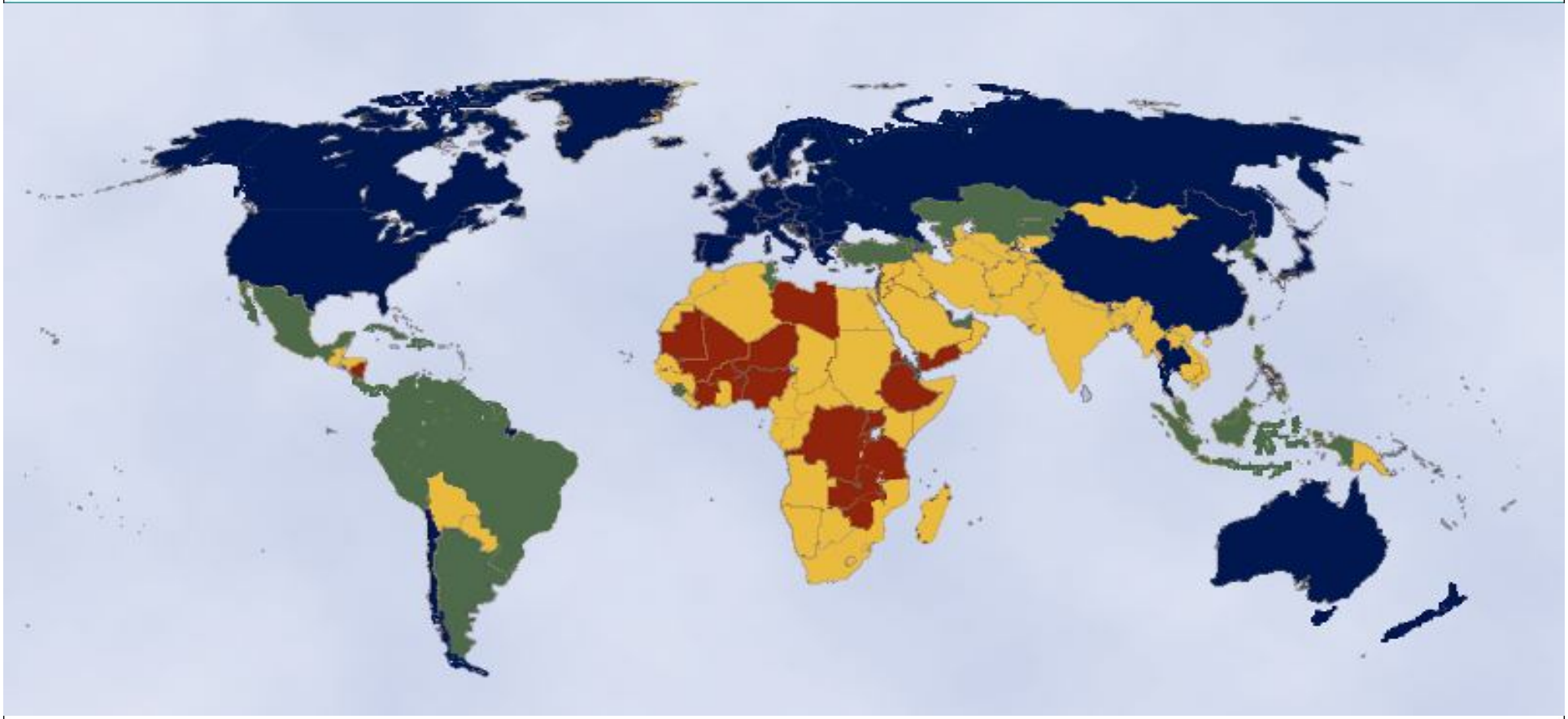
- On average, who gets injured more often? Older workers or younger workers?

Over 60 Populations in 2000



Percent of Population Age 60+ in 2000

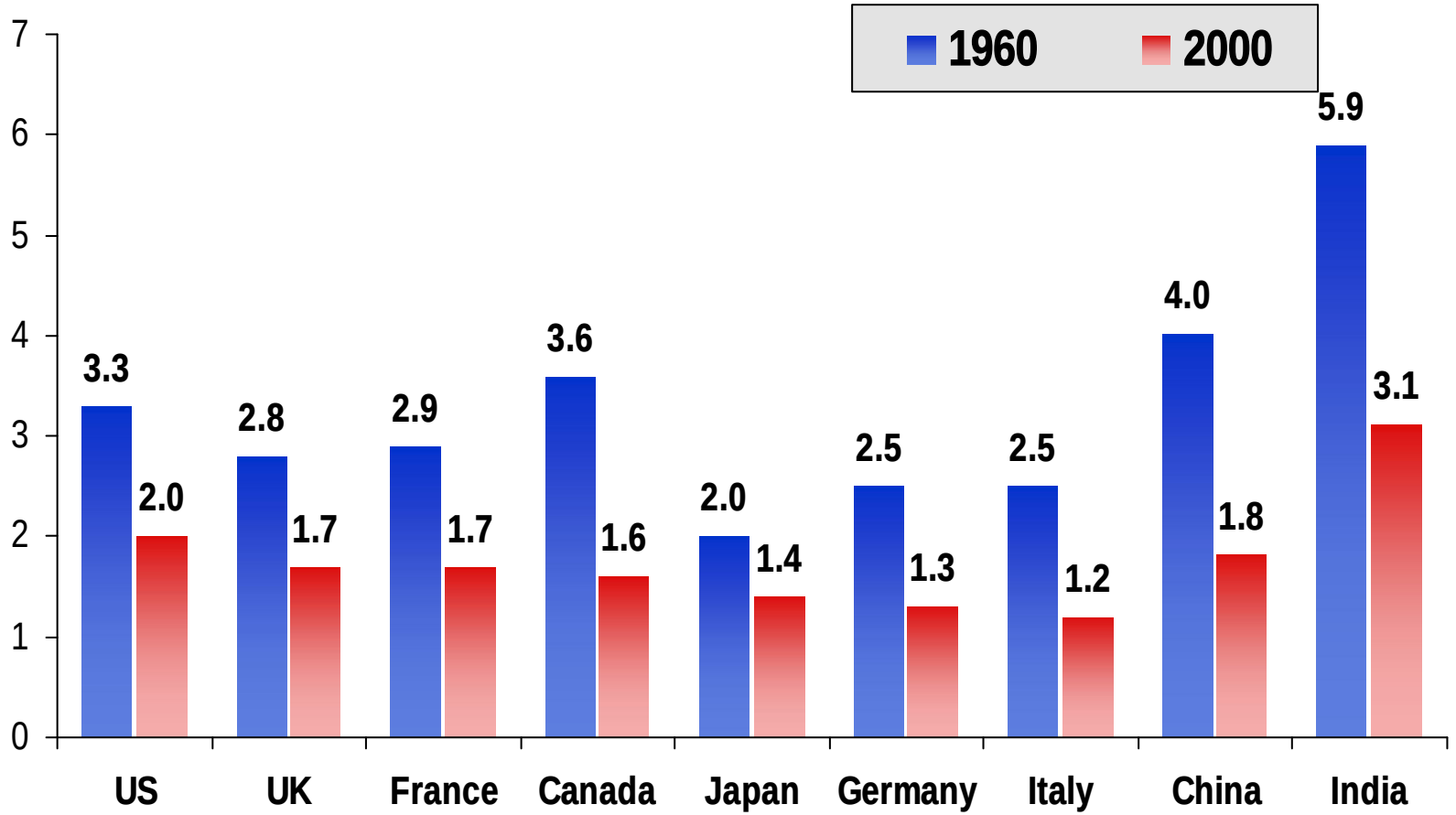
Projected Over 60 Populations by 2025



Percent of Population Age 60+ in 2025

Source: U.S. Census Bureau

Birth Rates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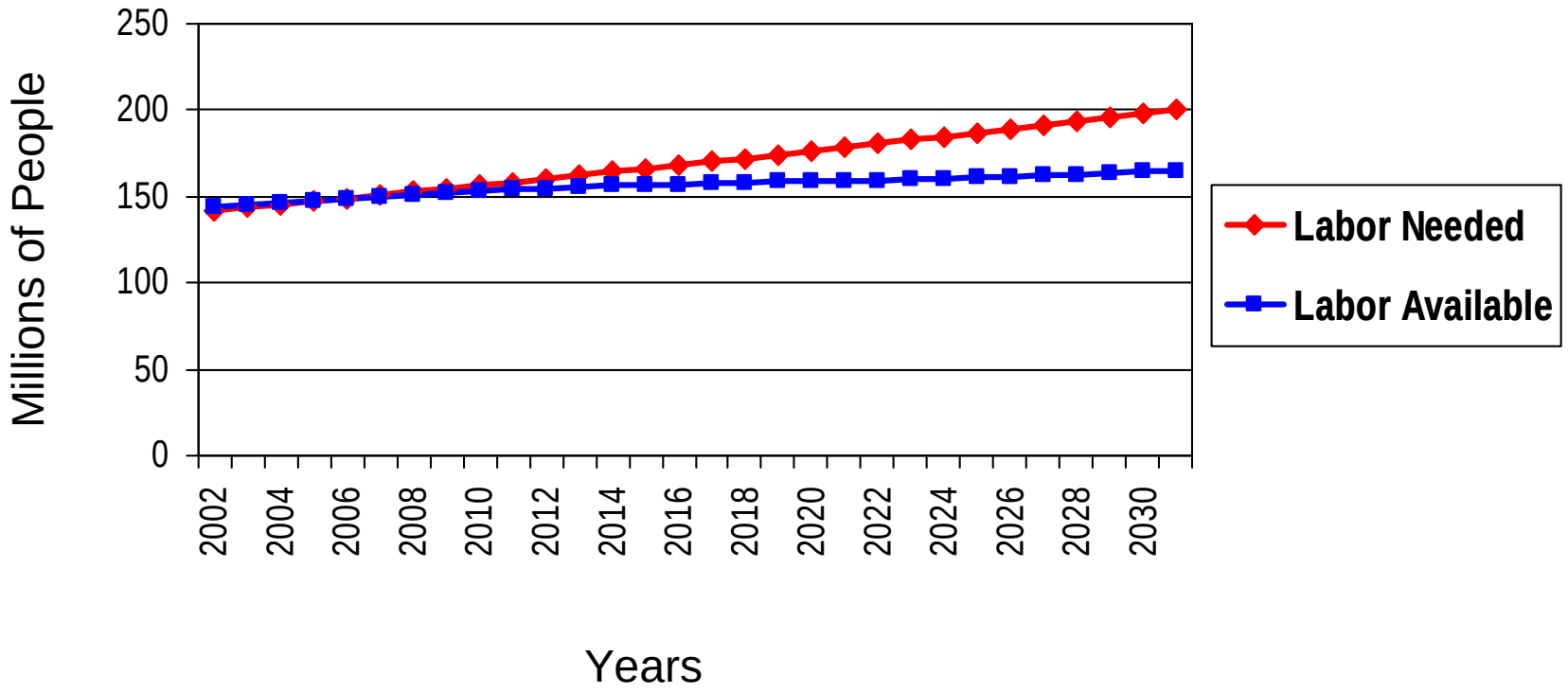
US
UK
France
Canada
Japan
Germany
Italy
China
India

Projected U.S. Labor Availability



The Aging Workforce is Not Temporary

- The lower rates of younger workers are and will continue to cause employers to hire and retain a greater number of older workers.

- Shift in thinking is necessary:
  - Ergonomic risks that were previously considered acceptable may not be in the future due to workforce composition
  - A need for greater focus on matching capabilities of worker with job demands.

Even with this Staggering Data…

- 60% of CEOs indicate their companies do not account for workforce aging in their long-term business plans.

(Source: AARP, *Business Executives' Attitudes Toward the Aging Workforce: Aware But Not Prepared?* Business Week Research Services, October 2006.)

Why Do We Need to Account For Aging Workforce-$

- Reduction in skills and knowledge with departing employees –"Tribal Knowledge"
  - Adverse affects on quality, efficiency
  - Adverse effects on property, environmental impacts, and safety of workforce
- Health Care Costs
  - Older employees generally have more chronic conditions that require care – place increased burden on health care pool
- Higher incidences of work related soft tissue injuries.

Constellations Actions: Capturing Knowledge

- Top skilled tradesmen pulled out of the field and placed in training department full time
  - Development of precise job training, qualifications, and certification programs
- "Workforce of the Future"
  - One of Constellations key initiatives
  - Committee aimed in recruitment strategies. Get the best and brightest.

Constellation's Actions: Health and Wellness

- Top down management approach to health and wellness initiatives
- Vice President chairs health and wellness committee
- Most wellness initiatives facilitated through medical department
- Significant $ spent on gyms at many locations–
- Frequent seminars given at locations concerning wellness, stress management, proper nutrition, etc.
- Health fairs conducted at nearly all locations with biometric screening

Constellation's Actions: Health and Wellness

- Smoking Cessation Programs
- Annual Health and Wellness award given by President to plant/location
- Health and Wellness an element in Constellation's SMS
- $50 gift cards for "Know Your Numbers Campaign"
- Plants have adopted a voluntary stretch and flex program

Constellation's Actions: Health and Wellness

- Stretch and Flex
  - Physical Therapists (PT) performed training courses throughout the fleet on proper stretching and warm-up techniques.
  - Lesson Learned:
    - If stretching is going to be instituted, it should be advertised as a wellness and therapeutic initiative, and not an injury prevention initiative.
    - Coupling stretching and ergonomics temporarily blurred the true intentions of Constellation ergonomics initiative
      - Unsubstantiated assumptions - i.e., "The back strain wouldn't of occurred if the employee had stretched"
    - If stretching program is enacted, it is very important that proper warm-up and stretching techniques are followed and constantly reinforced to prevent injury due to the stretching activity itself

Health and Wellness ROI

- Difficult to measure ROI, however studies show positive returns-
- *Patty's Industrial Hygiene 6th Ed.:*
  - Average of 2%-4% cost avoidance of total healthcare claims
  - $3-$6 return for each $1 invested
- Case study:
  - IBM spent 1.3 billion in health care in 2008
  - Requested University of Michigan to analyze cost savings – found savings of 80 billion in reduced health claims – (~ 6% cost avoidance)

Health and Wellness ROI

- "Meta Evaluation of Worksite Health Promotion Economic Return Studies" – L. Chapman (2004)
  - 27% reduction in employee absenteeism
  - 26% reduction in healthcare costs
  - 32% reduction in worker compensation claims

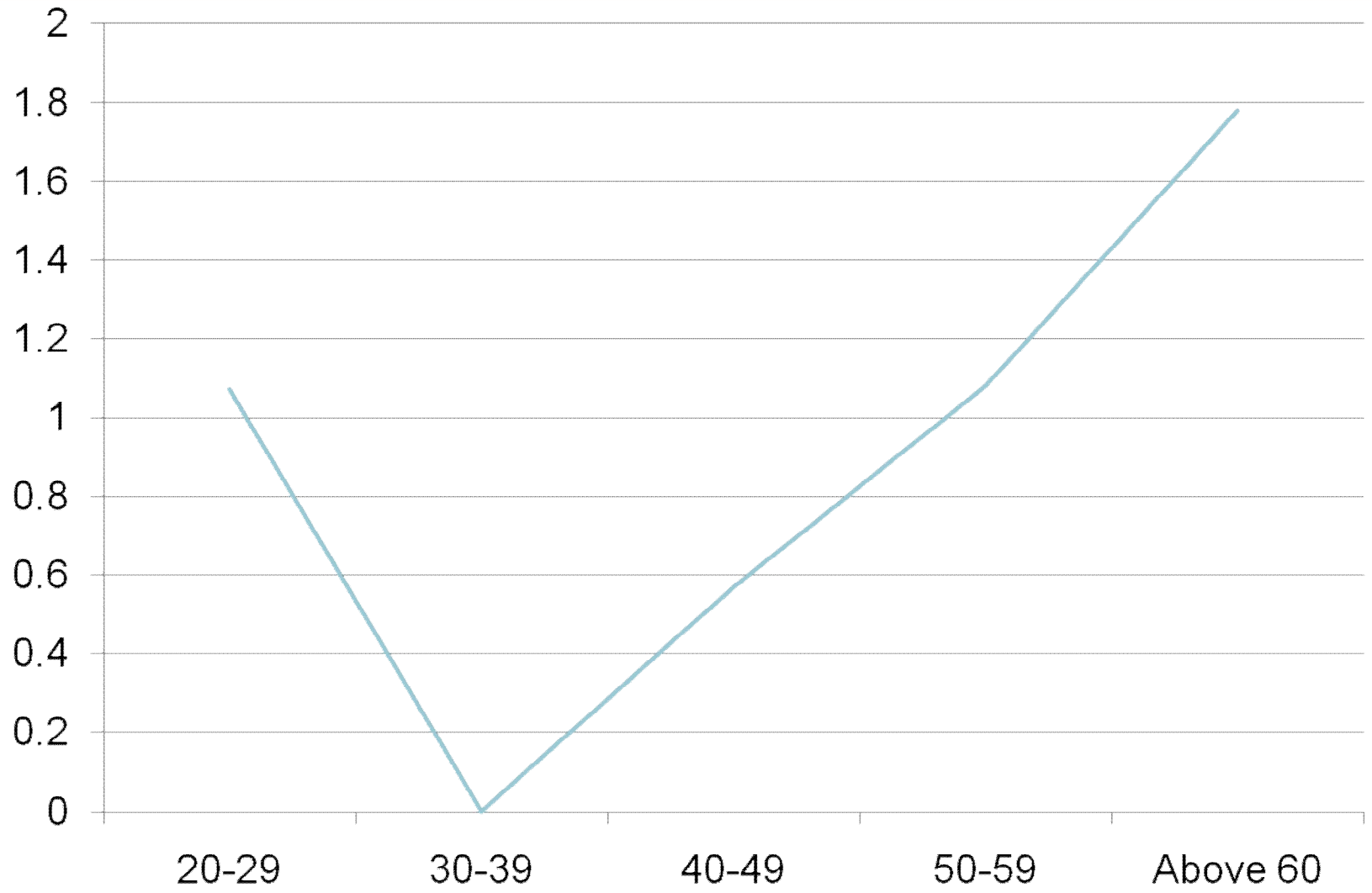
Soft Tissue Injuries at Constellation

- ~30% of total injury cases
- ~16% of total injury costs
- Repetitive work not a main risk factor
- In large part, there seems to be no pattern of injury in any particular task or job description

Soft Tissue Injuries at Constellation

- "Acute" type injuries make up majority of cases
  - Strains/sprains vs. CTD's
- Reportable acute events thought to be culmination of smaller acute events.
  - Further evidenced by the significant amount of injuries that have no identifiable event (e.g., employee simply walking and feels "snap" in knee)

Constellation Soft Tissue Injury % vs. Age Range



Constellation's Actions: Ergonomics

- Human resources adding specific physical demands to job descriptions
- Plant champions trained in basic ergonomic principles (40 hour training). Champions assist in assessments.
- Action plans set by each location annually that targets tasks with significant risk factors, core teams assembled to perform assessments
- Ergonomic assessments of tasks and job descriptions performed for first aid and OSHA recordable soft tissue injuries
- Annual awareness training

Lessons Learned - Ergonomics

- If resources are allocated for Ergonomics- place first into prevention
  - First hire/contract a CPE, CIH, CSP, or other H&S professional trained in ergonomics
    - More likely to accurately identify risk, and recommend feasible methods to reduce risks to acceptable levels.
  - Many PTs are attempting to expand their business by getting into ergonomics and simply aren't qualified
    - Unfamiliar with risk management methods
    - In many cases the hazard recognition is sub-par, and control recommendations consist of unsupported injury prevention methods.

Wrap Up

- The most experienced tradesmen have been placed into the training department to develop curriculums for newly hired employees
- Workforce of the Future initiative gets frequent high visibility by senior leadership – need the best and brightest for a successful future
- Although costs and incidence rates are currently low for ergo related injuries/illnesses, a new look on ergonomic risks is necessary and Constellation is moving forward
- Measurement of health and wellness returns is difficul,t however research shows positive returns on investment

Survey

- How many companies have incorporated the challenges of an aging workforce as part of their business planning?

Survey

- How many companies have a formal health and wellness program?

Survey

- How many companies have a stretch and flex program (on-the-job stretching)

Survey

- Others?

Questions?

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