Tech Fitness: Finding Your Fit!

Casey Gilvin, MS, NSCA-CSCS
Fitness Director
UK Campus Recreation & Wellness

Learning Objectives

• Review high tech gadgets that utilize Bluetooth technology in supporting Health & Wellness

• Discuss the benefits and limitations in the utilization of Fitness Activity Trackers

Learning Objectives

• Identify three potential support elements that heighten the benefit of Fitness Activity Trackers

• Discuss the direction of the Health and Wellness industry in future utilization of wearable technology

Bluetooth - Just Sync It....

Wearable What?

• Wearable Technology #1 Fitness Trend – 2016 & 2017- ACSM (Thompson)

• Fitness Trackers accounted for more than half of wearables in 2015 (IDC)

• 101.9 million units projected by end of 2016 (IDC)

• 213.6 million units shipped by 2020 (IDC)

Activity Trackers
Let’s Talk Physical Activity First!

The American Heart Association
Recommendations for Physical Activity in Adults

$100-$150 Trackers
- Daily Activity
- Caloric Expenditure
- Workout Tracking
- GPS
- Sleep Tracking
- Activity Alarm
- Heart Rate
- Basic Watch Functions

So What About Children?

The American Heart Association
Recommendations for Physical Activity in Kids

What All Do They Do?

$100-$150 Trackers
- Daily Activity
- Caloric Expenditure
- Workout Tracking
- GPS
- Sleep Tracking
- Activity Alarm
- Heart Rate
- Basic Watch Functions

Trackers with Performance Features
- Physiological Metrics
  - Lactate Threshold Predictor
  - Stress Score
  - Performance Condition/Recovery Metrics
- Some unique data
  - Cadence & Stride
  - Ground Contact

What Do You Think Are Some Potential Benefits?

Potential Benefits
- Gives you data to see how you are doing
- Social Aspect & Challenges
- Accountability

Are They Accurate?

- Most studies look at a few activity monitors
- Steps and Sleep (Ferguson, et al)
- ACE Study (Stackpool, et al)
  - 90% accuracy for walking, running, elliptical - step counts
  - 40 to 87% accurate for predicting caloric expenditure depending upon brand
- Steps differences ranged from 14% - 29% in accuracy (Rosenberger, et al)
Do They Help?
There aren’t a lot of long term studies yet...

- Weight Loss over 24 months higher in standard interventions than those that also utilized fitness trackers (Jakicic et al. 2016)

- Small Study - Increased weight loss with wrist trackers and face to face interventions (Pellegrini, et al. 2016)

What Do You Think Are Some Potential Barriers To Using Activity Trackers?

A Few Potential Barriers

- Comfort with Technology
- What do the results mean?
- I don’t have time for that!

What Else Is Out There?

Smart Clothing!

- Measure muscle activity via EMG
- Heart Rate

This One is Pretty Cool Too!!

- Movement:
  - Acceleration
  - Activity Level
  - Step Counting
  - Cadence
  - Energy Expenditure Estimate
- Breathing Sensors
  - Breathing Rate
  - Tidal Volume
- Cardiac Measures:
  - ECG, HR, HRV
What Makes the Activity Trackers Really Beneficial?

- Activity Tracking & Training Software
- Diet Tracking
- Healthy Living Software
- Goal Setting – S.M.A.R.T
- Effective Programming

Training Tips

- Energy Expenditure and Eating.. Just because you burned an extra 1,000 calories doesn’t mean you can now eat an extra 1,000….
- Traditional 10% Rule for Volume over time
- Crawl.. Walk.. Run….
- Physical component is just one part of Wellness

9 Dimensions of Wellness

The guide to a whole, healthy you!

Tracking Software Dashboard

American Heart Association Heart 360°

Diet Tracking
Do You Own A Smart Phone?

- Record activity
- Track Weight and monitor diet
- Basic programs
- Sleep
- Mindfulness
- Vitals, Measurements, etc.

What’s Next?

- User Interface Improvements
- Smart Fitness Equipment- Dumbbells, Sensors, etc.
- Smart Apparel
- AI Leading Programming based upon Bio Feedback Sensors – Headphones

Healthy Living Tips

- American Heart Association
  – www.heart.org
- American Council on Exercise
  – www.acefitness.org/acefit/healthy-living
- Office of Disease Prevention & Health Promotion
  – www.health.gov/paguidelines
  – www.health.gov/dietaryguidelines/2015/

What’s Next?

A Few Final Notes…

- Data is great if you are going to use it!
- It’s a tool that helps you keep track and plan – it assists, it doesn’t replace the behavior
- The act of using wearable technology doesn’t guarantee success.. It still takes work!!

References

Thank You!

Casey Gilvin, MS, NSCA-CSCS
casey.gilvin@uky.edu
859-257-9283
www.uky.edu/recwell