Overview

• What is CrossFit?
• The rise of CrossFit
• CrossFit Games development
• Athlete performance standards 2015
• Regional athletes survey
• Coaches Corner: Principles for successful programming for CrossFit
• Q & A
Let me tell you about CrossFit - Video

https://www.youtube.com/watch?v=mlVrkiCoKkg
What is CrossFit?

Definition
*Constantly varied high intensity functional movements.*

Intensity = Power = Force \times \text{distance} / \text{time}

Aim
To forge a broad, general and inclusive fitness

**Fitness definition**
*Work capacity across broad time and modal domains*

“A fitness regime that will best prepare trainees for any physical contingency - not only for the unknown, but for the unknowable”.

Generalists, not specialists
CrossFit Programming

“CrossFit embraces short, middle, and long distance metabolic conditioning, and low, moderate, and heavy load assignment. We encourage creative and continuously varied compositions that tax physiological functions against every realistically conceivable combination of stressors.”

“CrossFit is a strength and conditioning system built on constantly varied, if not randomized, functional movements executed at high intensity.”

Designed for universal scalability
“We use the same routines for elderly individuals with heart disease and cage fighters one month out from televised bouts. We scale load and intensity, we don’t change programs. The needs of olympic athletes and our grandparents differ by degree, not kind.”

Source: CrossFit Journal
CrossFit Programming

< 60 mins per day

3 days on - 1 day off
5 days on - 2 days off

Mechanics → Consistency → Intensity

“(....) the intuition of athletes and coaches everywhere has smartly outperformed all formalized approaches”

- CrossFit Journal, Beginners Guide to CrossFit
The Rise of CrossFit

AFFILIATES

Annual growth 10-20%

> 113,000 coaches

90% of affiliates survive >5 yrs

2009 2010 2011 2012 2013 2014 2015 (YTD)
The Test of Fitness - First 3min

https://www.youtube.com/watch?v=3eGgWEr-Vv8
THE SPORT OF FITNESS

2007
Inaugural CrossFit Games
70 athletes
$500 prize purse

2009
Regional Qualifiers
150 athletes
100 teams
4,000 spectators

2011
Reebok CrossFit Games (ESPN)
Open Qualifier
26,000
100 athletes
43 teams
$1M prize purse

2013
Reebok CrossFit Games
Open Qualifier
138,000
96 athletes
200 Masters
43 teams
25,000 spectators
$1M prize purse

2015
Reebok CrossFit Games
Open Qualifier
262,000
80 athletes
40 Teenagers
40 teams
$2M prize purse
2007 - Events

Day 1
1000m row
5 rds:
25 pullups
7 push jerks (62kg)
5km trail run

Day 2
Back squat 1RM
Shoulder press 1RM
Deadlift 1RM
## 2015- Events

### Wednesday

<table>
<thead>
<tr>
<th>Event 1 - Pier Paddle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swim 500 meters</td>
</tr>
<tr>
<td>Paddle 2 miles</td>
</tr>
<tr>
<td>Swim 500 meters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 2 - Sandbag 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>For time:</td>
</tr>
<tr>
<td>Move sandbags across</td>
</tr>
<tr>
<td>the stadium</td>
</tr>
</tbody>
</table>

### Friday

<table>
<thead>
<tr>
<th>Event 3 - Murph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-mile run</td>
</tr>
<tr>
<td>100 pull-ups</td>
</tr>
<tr>
<td>200 push-ups</td>
</tr>
<tr>
<td>300 squats</td>
</tr>
<tr>
<td>1-mile run</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 4 - Snatch Speed Ladder</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 rounds of ladders, each with</td>
</tr>
<tr>
<td>5 progressively heavier barbells</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 5 - Heavy DT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 rounds of:</td>
</tr>
<tr>
<td>12 deadlifts</td>
</tr>
<tr>
<td>9 hang power cleans</td>
</tr>
<tr>
<td>6 push jerks</td>
</tr>
</tbody>
</table>

### Saturday

<table>
<thead>
<tr>
<th>Event 6 &amp; 7 - Sprint Course 1 &amp; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>For time:</td>
</tr>
<tr>
<td>Sprint north through obstacle course</td>
</tr>
<tr>
<td>(Sprint Course 1)</td>
</tr>
<tr>
<td>Rest</td>
</tr>
<tr>
<td>Sprint south through obstacle course</td>
</tr>
<tr>
<td>(Sprint Course 2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 8 - Soccer Chipper</th>
</tr>
</thead>
<tbody>
<tr>
<td>For time:</td>
</tr>
<tr>
<td>100-ft. Pig flip (560 / 395 lb.)</td>
</tr>
<tr>
<td>4 legless rope climbs</td>
</tr>
<tr>
<td>100-ft. handstand walk</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 9 - Clean and Jerk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-rep-max clean and jerk</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 10 - Triangle Couplet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thrusters (165 / 115 lb.)</td>
</tr>
<tr>
<td>Bar muscle-ups</td>
</tr>
</tbody>
</table>

### Sunday

<table>
<thead>
<tr>
<th>Event 11 - Midline Madness</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 rounds of:</td>
</tr>
<tr>
<td>400-meter run</td>
</tr>
<tr>
<td>50-ft. yoke carry</td>
</tr>
<tr>
<td>(380 / 300 lb.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 12 - Pedal to the Metal 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 peg board ascents</td>
</tr>
<tr>
<td>24-calorie row</td>
</tr>
<tr>
<td>16-calorie bike</td>
</tr>
<tr>
<td>8 dumbbell squat snatches</td>
</tr>
<tr>
<td>(100 / 70 lb.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Event 13 - Pedal to the Metal 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 parallette handstand push-ups</td>
</tr>
<tr>
<td>24-calorie row</td>
</tr>
<tr>
<td>16-calorie bike</td>
</tr>
<tr>
<td>8 kettlebell deadlifts</td>
</tr>
<tr>
<td>(203 / 124 lb.)</td>
</tr>
</tbody>
</table>
Age: 28
Height: 168cm
Weight: 65kg

Back Squat: 124kg
Deadlift: 146kg
Pullups: 42
Snatch: 73kg
C&J: 92kg
400m: 69sec

Source: www.games.crossfit.com
MALES STANDARDS - REGIONALS 2015

Age: 26
Height: 178cm
Weight: 86kg

Back Squat: 195kg
Deadlift: 226kg
Pullups: 57
Snatch: 116kg
C&J: 144kg
400m: 66sec

Source: www.games.crossfit.com
2015 REGIONALS ATHLETES - SURVEY

“Current trends among competitive CrossFitters”

660 Athletes

135 responses
SURVEY RESULTS | SOCIAL

69% Single

84% coach CrossFit

33% work outside of a gym
Years experience
3 yrs or more: 86%
3-5 yrs: 69%

Training background
Avg: 8yrs

Most common sports
Gymnastics
Rugby
American Football
Basketball
Soccer
Track and field
Q: What is your average weekly training volume? (hours per week)

- <8hrs: 4.5%
- 8-10: 8.5%
- 10-12: 12.5%
- 12-14: 14.5%
- 14-16: 18.5%
- 16-18: 21.5%
- 18-20: 11.5%
- >20: 8.5%

Average: 15hrs/week
Q: What is your average weekly training volume? (# of sessions)

Average: 9 sessions/wk
Q: Rest days/month

AVG: 5 days per month
Q: Benefit from higher training volume?

- Yes: 29%
- No: 71%
### Comparison of performance standards and training volume

<table>
<thead>
<tr>
<th>Female/Male</th>
<th>C&amp;J</th>
<th>Snatch</th>
<th>Back Squat</th>
<th>Deadlift</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;9 sessions</td>
<td>94kg / 150kg</td>
<td>76kg / 122kg</td>
<td>123kg / 198kg</td>
<td>147kg / 236kg</td>
</tr>
<tr>
<td>&gt;12 sessions</td>
<td>102kg / 153kg</td>
<td>79kg / 125kg</td>
<td>128kg / 204kg</td>
<td>155kg / 240kg</td>
</tr>
<tr>
<td>Difference</td>
<td>+8kg / +3kg</td>
<td>+3kg / +3kg</td>
<td>+5kg / +6kg</td>
<td>+8kg / +4kg</td>
</tr>
</tbody>
</table>

### Comparison of performance standards and training age

<table>
<thead>
<tr>
<th>Female/Male</th>
<th>C&amp;J</th>
<th>Snatch</th>
<th>Back Squat</th>
<th>Deadlift</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3yrs</td>
<td>94kg / 148kg</td>
<td>75kg / 118kg</td>
<td>125kg / 197kg</td>
<td>144kg / 233kg</td>
</tr>
<tr>
<td>&gt;5 yrs</td>
<td>98kg / 150kg</td>
<td>77kg / 122kg</td>
<td>126kg / 197kg</td>
<td>152kg / 230kg</td>
</tr>
<tr>
<td>Difference</td>
<td>+4kg / +2kg</td>
<td>+2kg / +4kg</td>
<td>+1kg / 0kg</td>
<td>+8kg / -3kg</td>
</tr>
</tbody>
</table>
**Survey Results | Rest & Recovery**

### Hours of Sleep
- 8 or more: 55%
- 7 or less: 45%

### Nap during the Day
- Yes: 28%
- No: 72%
28% feel rested more than 5 days per week

42% feel rested 0-2 days per week
Q: Who is responsible for your programming?

- Me: 22
- I control the workouts, but I get help: 8
- 1 coach only: 29
- 1 main coach with specialists input: 19
- Generic programming: 22
Q: Who is responsible for your programming?

- 30% take responsibility of their own programming
- 48% have a designated coach
- 22% follow a generic programming
Q: Are your programs individualized or based on a group programming?

- Individualized: 65%
- Group: 35%

Q: Does your program follow an annual plan?

- Yes: 79%
- No: 21%
How often do you train alone?

- 30% Never
- 25% 25%
- 50% 50%
- 75% 75%
- 26% Every session
- 9% 9%
- 10% 10%
Does your training environment influence performance?

- **31%** No
- **29%** Mainly social
- **20%** Important
- **20%** Essential
Q: What are the 3 most important factors for successful programming for competitive CrossFit?

Top 8
1. Variety
2. Individualized programming
3. Work on weaknesses
4. Recovery/listen to body
5. Periodization
6. Aerobic capacity
7. Large strength base
8. High intensity
Q: How bothered have you been by injuries while competing in CrossFit?

- Never: 10%
- Rarely, mostly feel great: 57%
- Frequent, but overall performance not suffering: 21%
- A great deal: 12%
Q: Number of training days missed due to injury, annually?

- 1-5 days: 57%
- 6-15 days: 27%
- 16-30 days: 10%
- >30 days: 6%
Q: Currently or in the past received professional help for your diet?
- No: 42%
- Yes: 58%

Q: Do you track your nutritional intake on a regular basis?
- No: 71%
- Yes: 29%
Q: Most regular supplements

Creatine
Whey
Fish oil
Magnesium
BCAA
Vit.D
Multi vit.
Q: Which attribute PHYSICAL, MENTAL or ENVIRONMENTAL would most help you win the CF Games?

- Mental: 12%
- Physical: 31%
- Environmental: 57%
Approx.: 50/50 believe PEDs are rare/common
• 69% are single

• 84% coach CrossFit

• 33% have jobs outside of the gym environment

• 69% have 3-5yrs experience doing CF

• Average of 8 years playing sports prior to CrossFit

• Dedicate an average of 15hrs to training each week

• Spread over an average of 9 sessions/week

• Average of 5 rest days per month (not including active rest)

• Train twice per day at least 3 of 6 days/week.
SURVEY RESULTS | SUMMARY

• Sleep approx. 7-8 hrs

• Feel rested <50% of the week

• 50% have a coach

• 30% do their own programming

• 65% individualized programming

• 35% follow group programming

• 80% use an annual plan

• Importance of training environment and training partner has evenly split opinions
SURVEY RESULTS | SUMMARY

• Most important factors for successful programming
  1. Variety
  2. Individualization
  3. Minimize weaknesses
  4. Recovery/Listen to body
  5. Periodization

• Over 2/3 of the population mainly feel great and very little injuries.

• 58% have received professional help with diet

• 57% believe improving mental attributes will be their biggest help towards winning CF Games

• 50% believe the use of PED’s is common.
Current research on multi-element/concurrent training does not cover a wide enough range of modalities (or volume) to be specific to CrossFit.

“While the CrossFit template is quite useful, it does have a weakness. Its random assignment of exercises to workouts is not satisfactory for all applications. In fact, random selection of exercises only produces desired or maximal fitness gains by chance, for in a random chance scenario we can as easily select wrong as easily as we can select right”.

- Lon Kilgore, “Fit”.

Traditional Programming
PRINCIPLES FOR COMPETITIVE CROSSFIT

COACHES PERSPECTIVE
ASSESS THOROUGHLY AND PROGRAM INDIVIDUALLY

Know thy athlete!

- Personality
- Goals
- Logistics
- Training age

Resiliency to physical, mental and environmental challenges
- Weaknesses
- etc, etc, etc
NOTHING IS RANDOM ANYMORE!

Variation driven by intelligent programming.
PERIODIZATION INEVITABLE

Blocks/phases/focus’

Weaknesses
Goals
Training age
Seasonal

Undulating or linear.
Upper body volume tolerance
DAILY FEEDBACK DRIVES AUTO-REGULATION STRATEGIES

Intensity
Volume
Exercise alteration
MAXIMIZING RECOVERY IS ESSENTIAL

Know thy athlete!

You need to care about and know the athletes recovery ability
THE REEBOK CROSSFIT GAMES STANDARDS DETERMINE REQUIRED TRAINING STANDARDS

Endurance, strength, power, skills, modalities, duration, environment
Principles for Competitive Programming

FOUNDATION: MOVEMENT QUALITY & AEROBIC CAPACITY

Movement efficiency & consistency

Recovery (inter- and intra workout)

Build strength, power endurance and intensity on top
MAXIMAL INTENSITY IS NOT ACHIEVABLE OR DESIRABLE WITH THE REQUIRED TRAINING FREQUENCY

CrossFit has the potential to exhaust all physical capacities in a relatively short time period.

...demands intensity adaptation and/or periodization

Often “practice” instead of “train”
WOMEN: HIGHER FREQUENCY, VOLUME AND INTENSITY

Less neurologically efficient - less CNS demanding =
Better tolerance of sub-maximal intensity and increased recovery capacity

Women are further from reaching their potential in CrossFit then men.
**SICKNESS, WELLNESS, FITNESS CONTINUUM...**

“Your fitness is a snapshot of your health,” Glassman
Take home message

Non-competitive athletes

- Understand the importance of self-scaling and progressive overload
- Do not be in a rush, spend time on refining the basics and building your foundation
- Maximum intensity is NOT required at all times
- Listen to your body
- Understand your limitations and work on your weaknesses smartly
- “Mechanics - Consistency - Intensity”
- Get help from a well educated and experienced coach
Thank you!

Coaches

Erik Kelner - www.weightlifting101.net
Lon Kilgore - www.lonkilgore.com
Martin Altemark - www.crossfituppsala.se
Jami Tikkanen - www.thetrainingplan.co
Marcus Herou - www.gorillafitness.se
James Fitzgerald - www.opexfit.com

Survey respondents
Thank you!

Q&A