



TALENT IDENTIFICATION AND DEVELOPMENT THROUGHOUT THE ATHLETE PATHWAY



TALENT IS THE MOST IMPORTANT CONCEPT IN HIGH PERFORMANCE SPORT TODAY.





Vancouver, Canada

Conférence
d'entraîneurs

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ADA
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conference
nationale

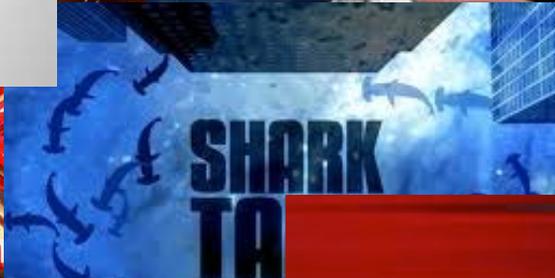
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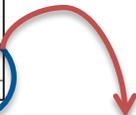
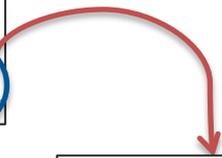
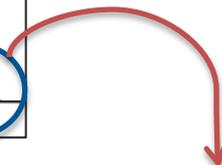
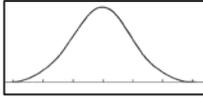
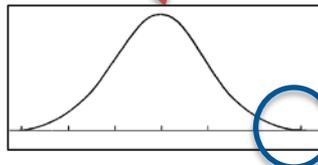
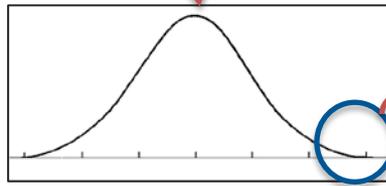
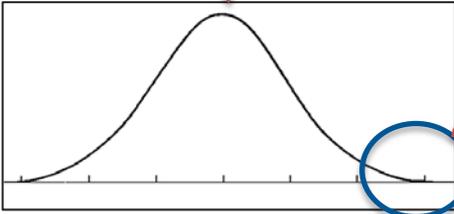
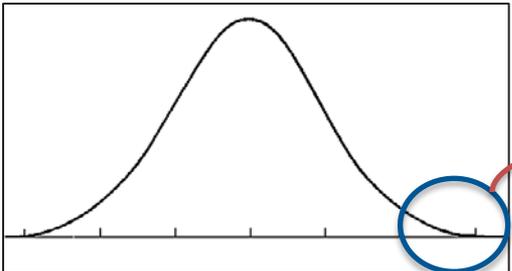
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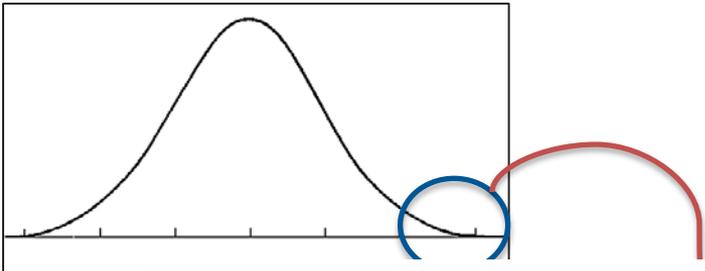
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THE NEXT

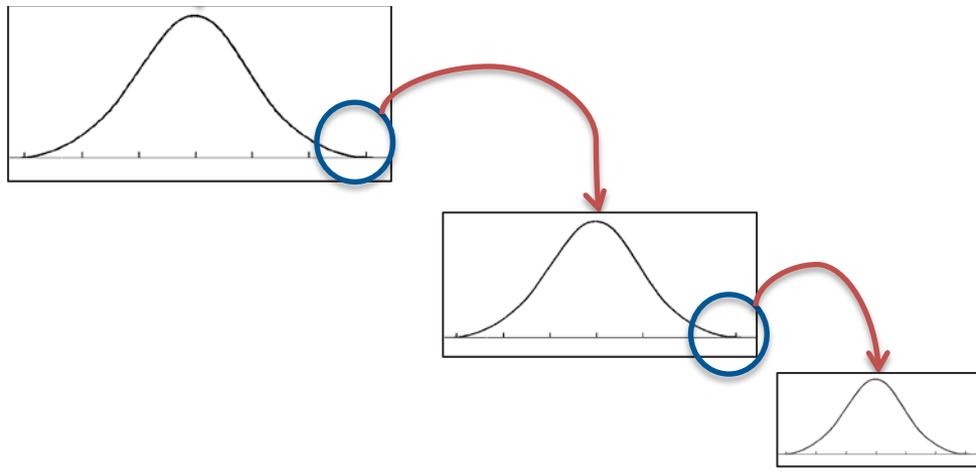
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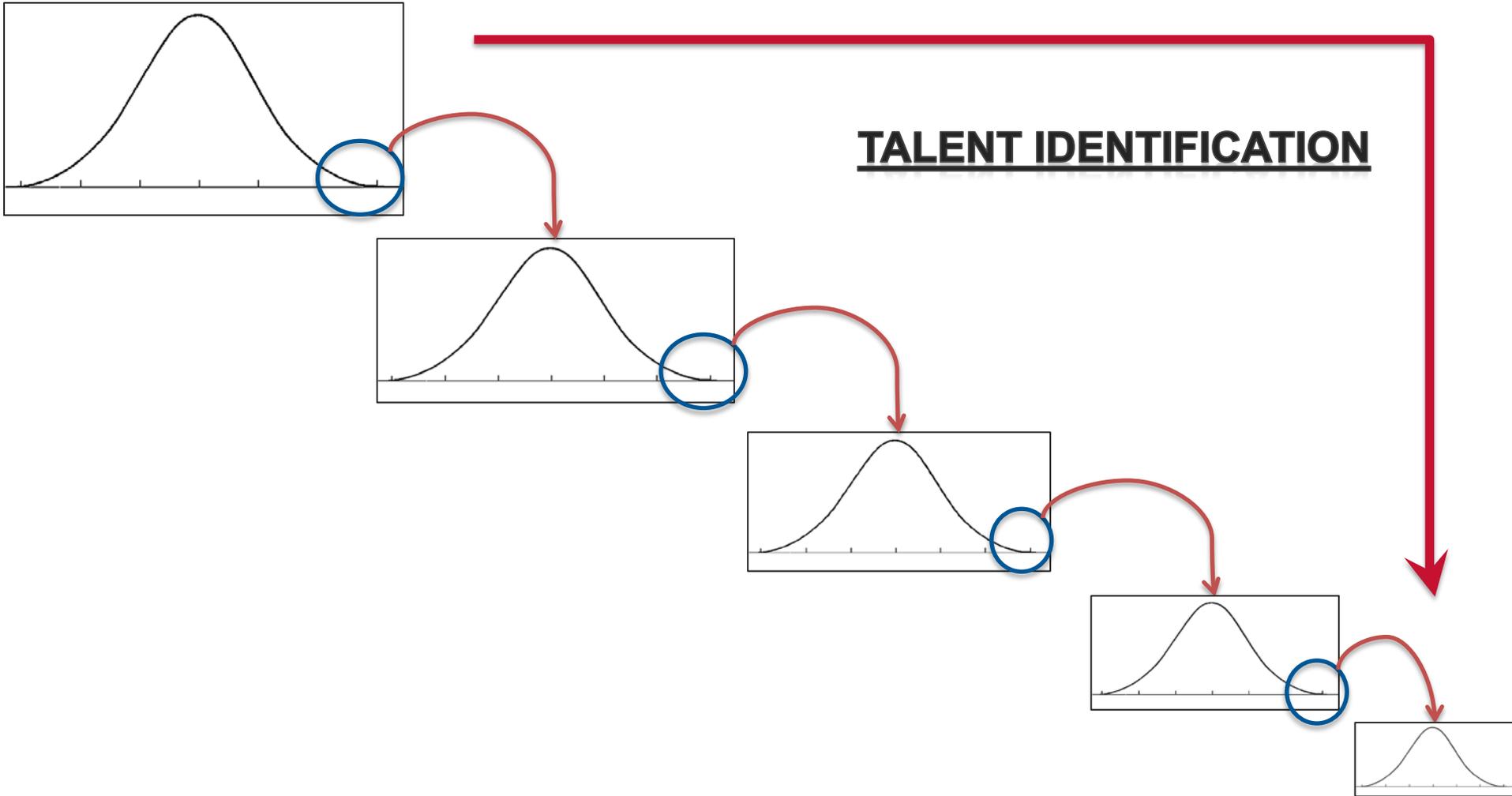


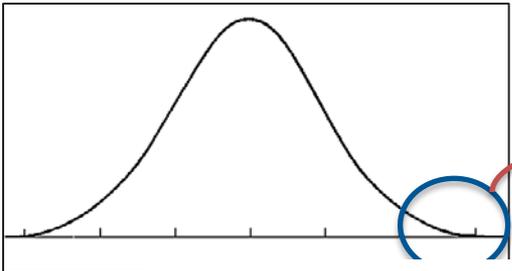


An innate quality (or qualities) that identified at one point in time can be used to predict success at a future point in time.



TALENT IDENTIFICATION

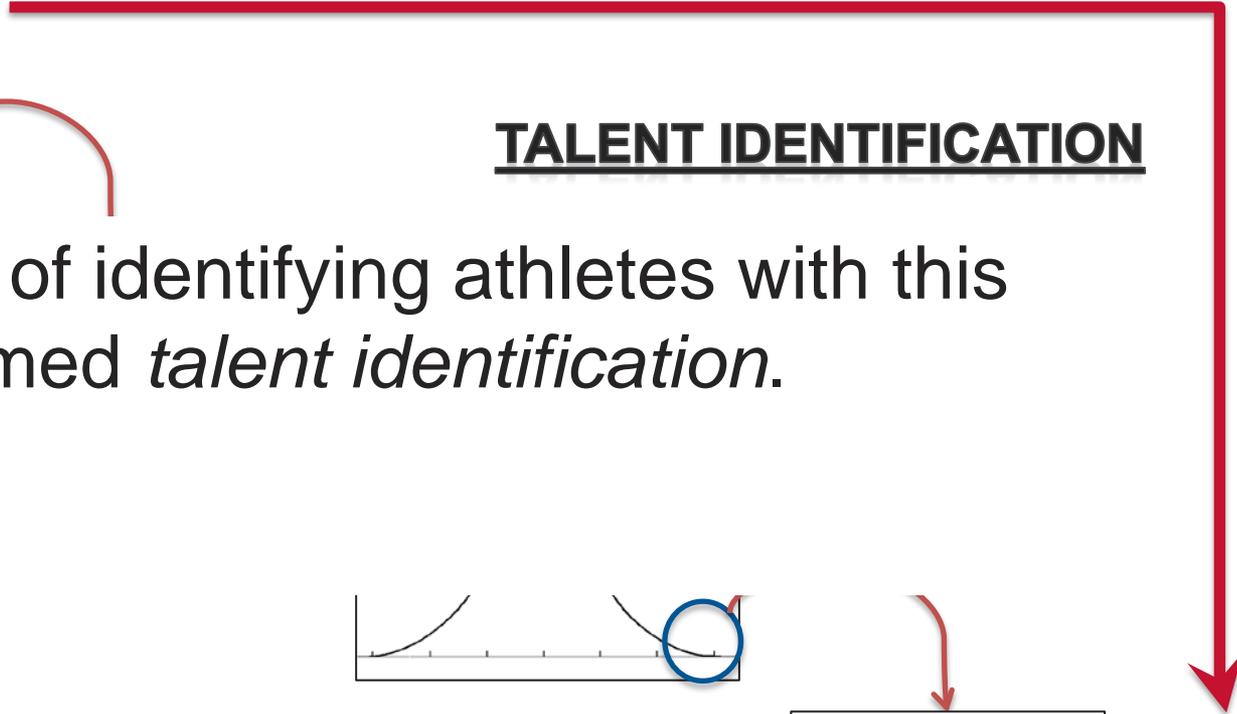
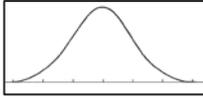
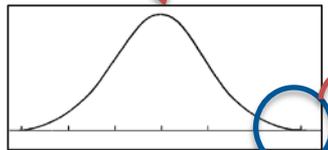
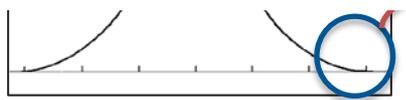


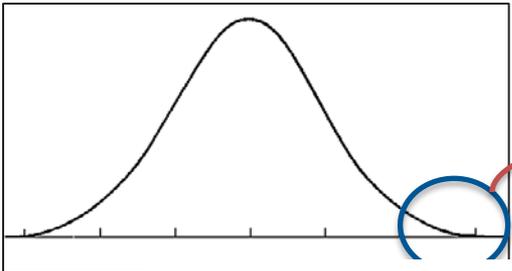


TALENT IDENTIFICATION

The process of identifying athletes with this quality is termed *talent identification*.

Assumes:

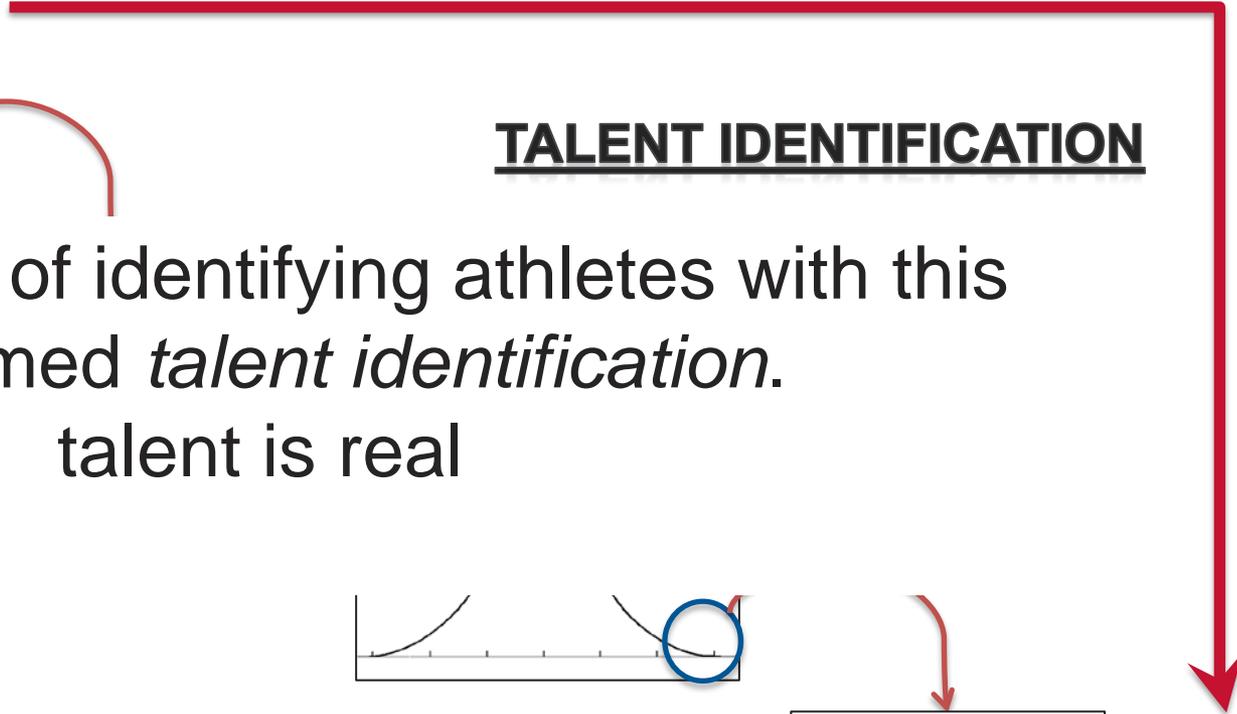
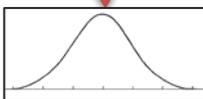
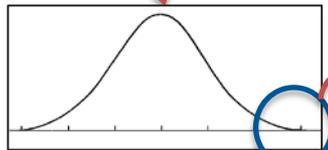
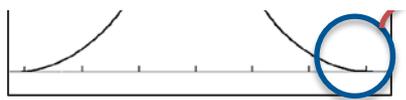


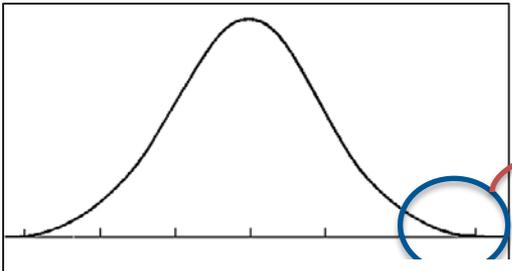


TALENT IDENTIFICATION

The process of identifying athletes with this quality is termed *talent identification*.

Assumes: talent is real

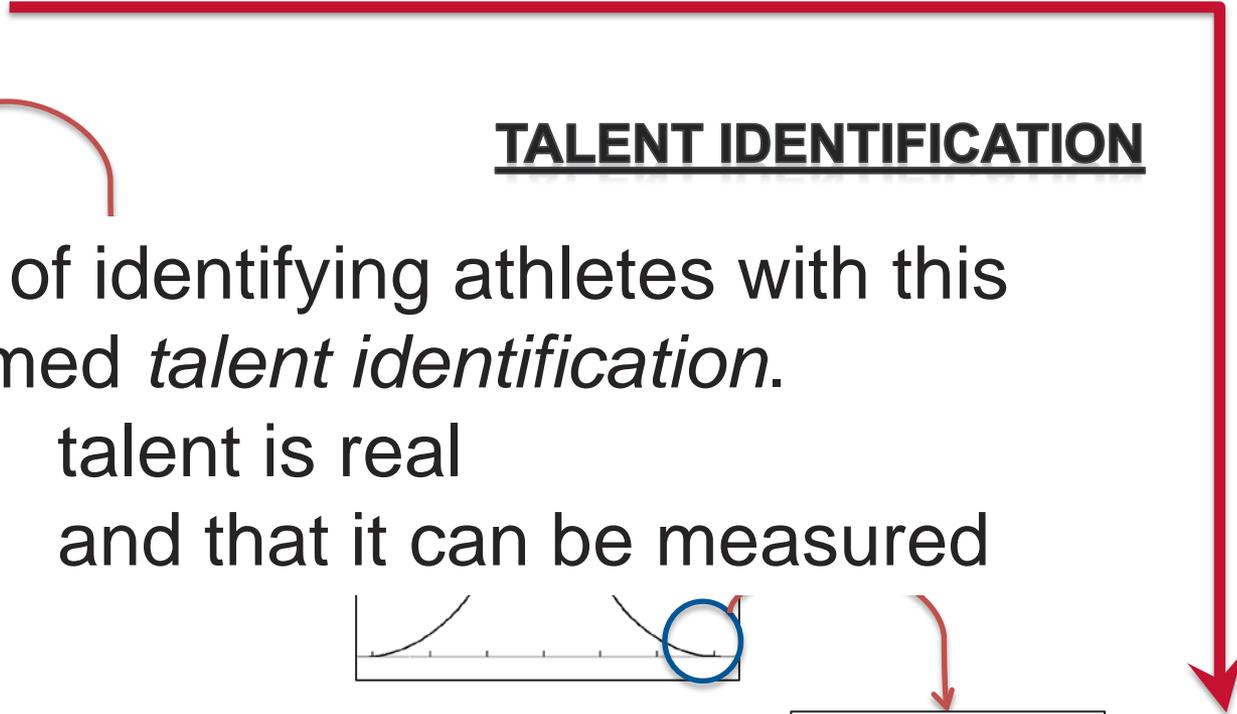
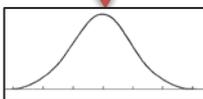
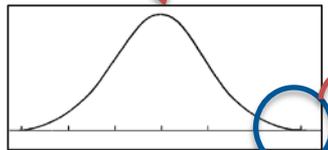


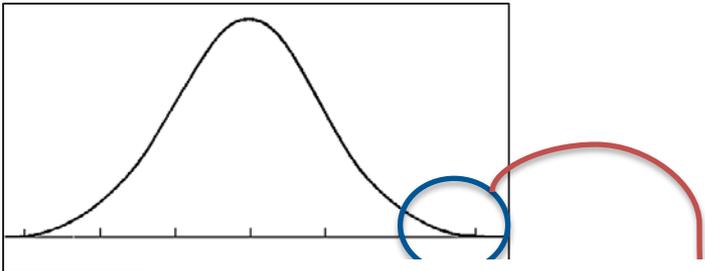


TALENT IDENTIFICATION

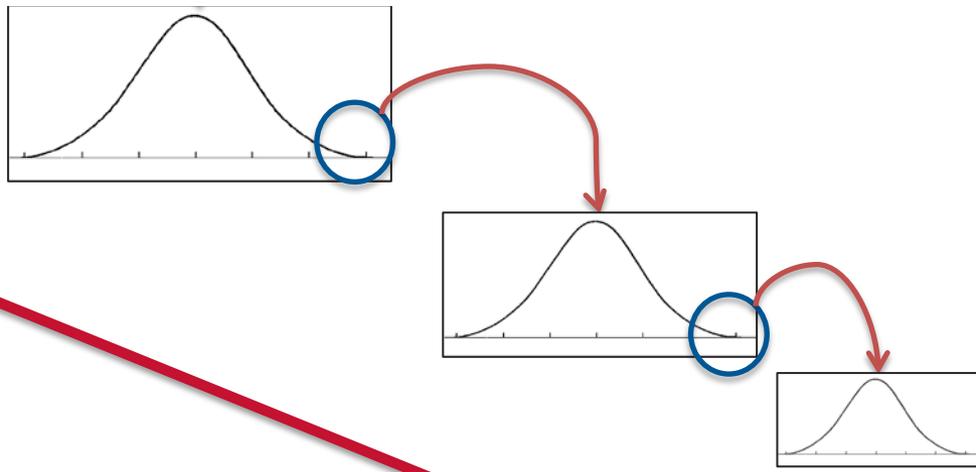
The process of identifying athletes with this quality is termed *talent identification*.

Assumes: talent is real
and that it can be measured

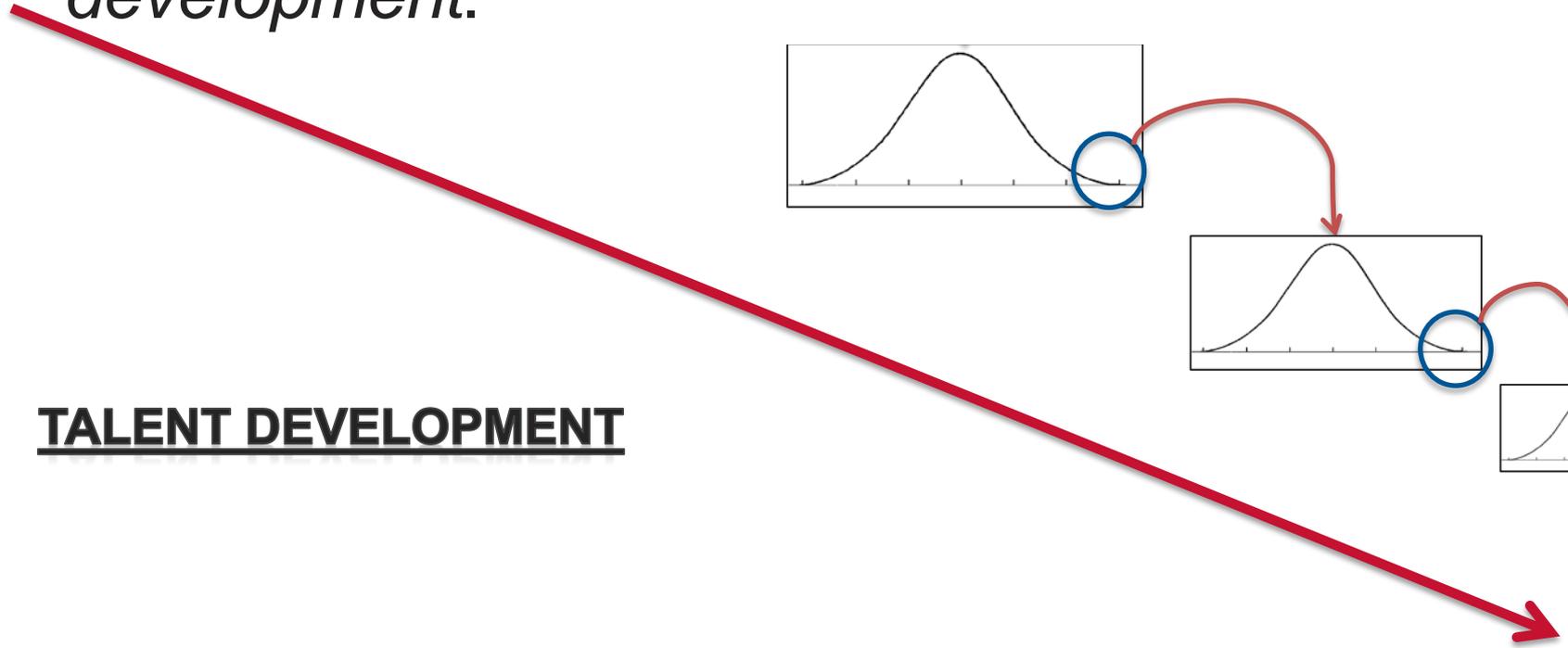




The process of helping these athletes train, practice and succeed is termed *talent development*.



TALENT DEVELOPMENT



5-8 million youth

High school - ~ 18,000 schools = 540,000 players

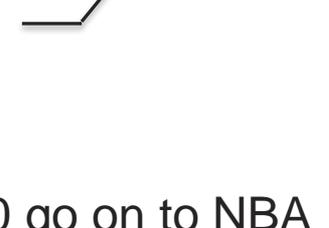
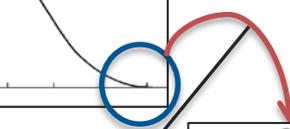
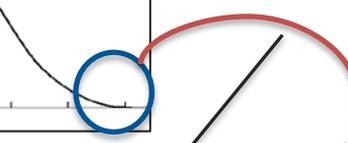
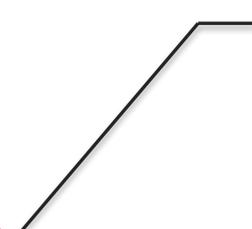
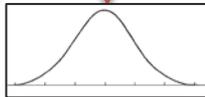
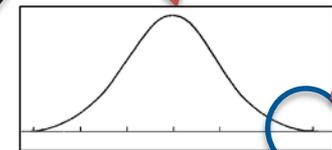
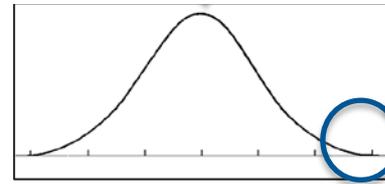
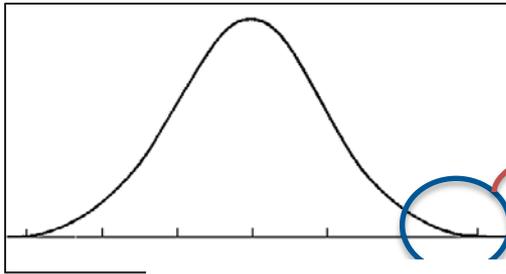
DIV 1 - 346 teams = ~4500 players

Why does this matter?

UK spent ~20 million pounds (~\$33 million CAN) for London Games

NBA draft - 2 rounds ~ 50 college players

15-20 go on to NBA



SYSTEMATIC REVIEW

Robinson, Wattie, Schorer & Baker (under review)

- » Search terms “talent”, “expertise”, “giftedness”, AND “sport”
- » Web of Science, Sport Discus
- » Timeframe 1990-2015
- » 1696 articles

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SYSTEMATIC REVIEW

Robinson, Wattie, Schorer & Baker (under review)

- » 20 studies
 - Prospective (1 year) with skill-based comparisons
- » Recent (all published since 2004)
- » 65% males only, mostly from soccer (n=7) followed by rugby league (n=3), gymnastics (n=3); largely from Europe (n=16)
- » Mostly physical variables (n=12) with only 4 considering a mix of variables

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PROSPECTIVE STUDIES OF TALENT ID

Koz, Fraser-Thomas & Baker (2011)

- Considered accuracy of professional sports drafts (NHL, NFL, NBA and MLB) in predicting future performance
- Results = very poor accuracy (ranging from 3% to 17% variance accounted for in MLB and NBA respectively)

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PROSPECTIVE STUDIES OF TALENT ID

Schorer, Rienhoff, Fischer & Baker (under review)

- Considered accuracy of coaching talent selections by tracking where selected and rejected players end up.
- N = 58 German handball players measured in 2001 at age 13-14
- Assessed by national and regional coaches
- 10 yrs later - 14 were National team members

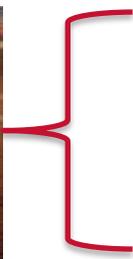
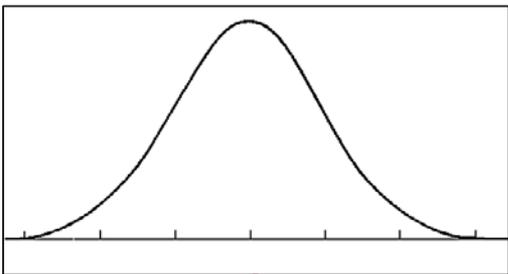


PROSPECTIVE STUDIES OF TALENT ID

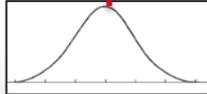
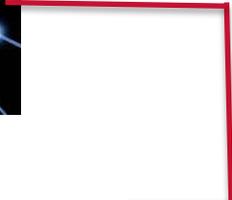
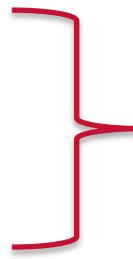
Schorer, Rienhoff, Fischer & Baker (under review)

- *A priori* probability = 76% (everyone forecasted as untalented)
- Accuracy ranged from 79% for National level coaches to 75% for regional level coaches with similar rates of Type I and Type II errors
- Interestingly, randomly chosen novices had an accuracy rate of 73% but were more likely to make Type II errors





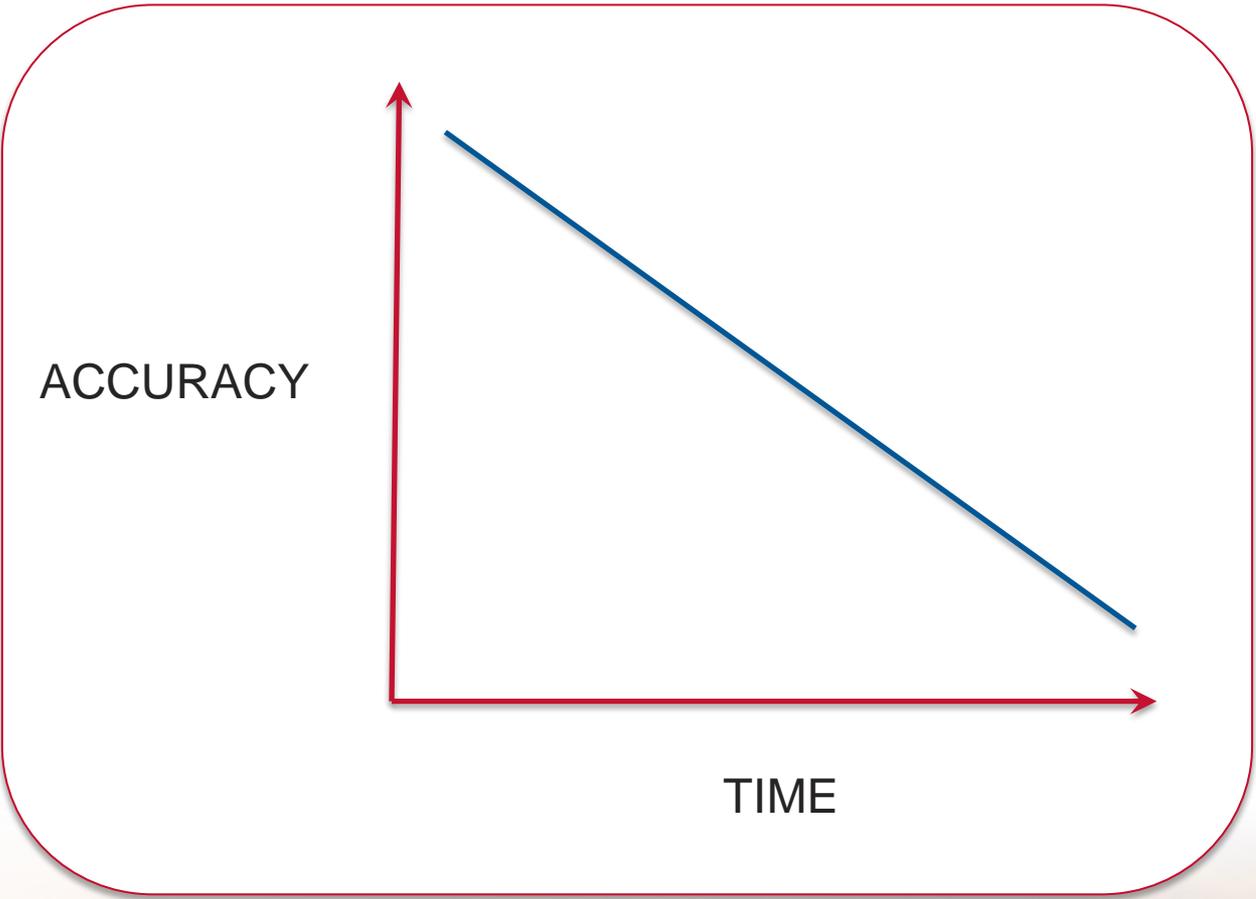
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BELIEFS ABOUT TALENT MATTER!

How do you explain/attribute your capabilities?

- Beliefs about talent and its development affect motivation, learning and performance

Fixed/Implicit = natural ability, nature over nurture,

Growth/Acquirable = hard work, nurture over nature



BELIEFS ABOUT TALENT MATTER!

How do you explain/attribute your capabilities?

- Beliefs about talent and its development affect motivation, learning and performance

Fixed/Inherent mindsets are associated with:
Decreased motivation, less practice, learned helplessness

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'TALENT' IS THE MOST IMPORTANT CONCEPT IN HIGH PERFORMANCE SPORT TODAY.

Systems are still designed with this concept as the foundation

Funding is based on the assumption that talent is real and coaches can/should identify it

This approach has high costs re: early de-selection and dropout



KEY MESSAGES

1. Forget about talent

- If it exists, we don't know how to measure it.

2. Your messages about talent may be harmful

- Foster a growth mindset but be realistic

3. Focus on quality of training/practice

- This is where your greatest impact will be



Thank You!

FOR MORE INFO:

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TALENT IDENTIFICATION AND DEVELOPMENT THROUGHOUT THE ATHLETE PATHWAY – PART 2

Session #: [Click here to type session #](#)

Presented By: James Brotherhood

Date: 2017-01-27

WHO AM I?

QUICK RELEVANT HISTORY

- » 2003 U Alberta Novice
- » 2006 Commonwealth Regatta and World University Rowing
- » 2006 MSc. Victoria (Rowing & Taper & Blood) - Rower
- » 2008 Canadian Sport Institute Pacific – Physiologist – Rowing
- » 2013 UBC Sr. Manager Sport Science and Sport Medicine



UBC



OUTLINE



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TALENT ID / TALENT TRANSFER



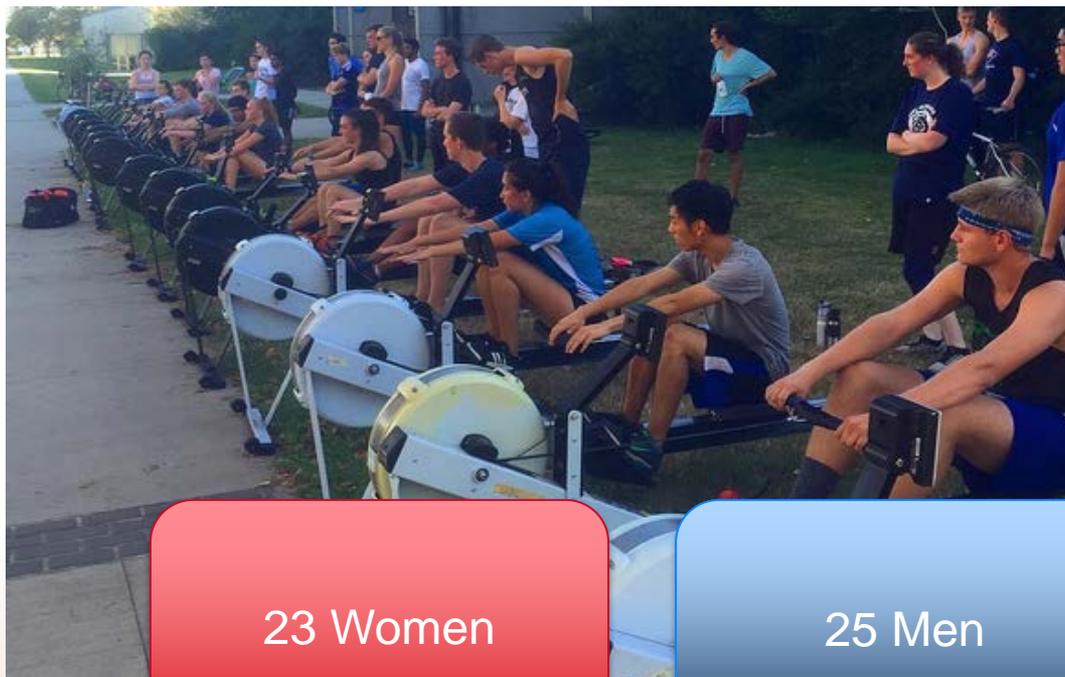
60 Women

67 Men

NOVICE ROWING

TEST BATTERY – DAY 1

- » Athletic history
- » Anthropometrics
 - Height
 - Weight
 - Wingspan
- » Erg Peak Power
- » 2km run
 - Aerobic competency



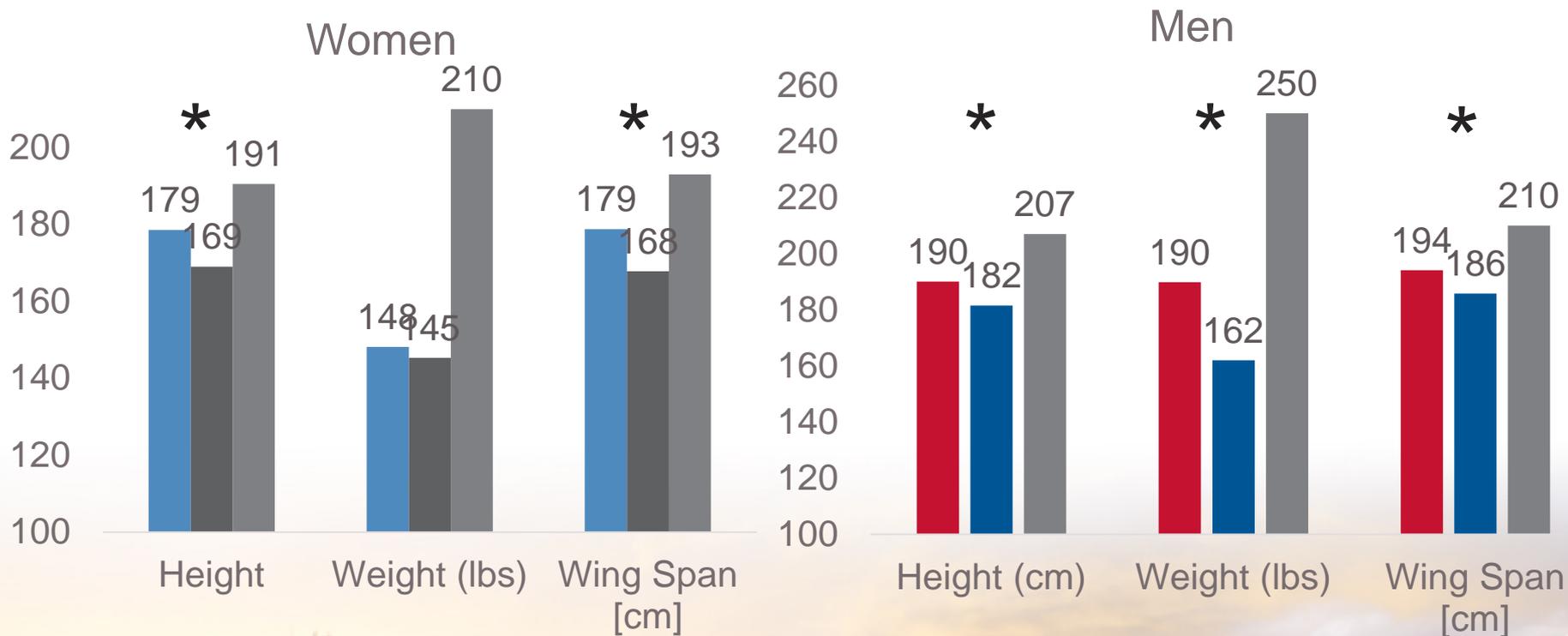
23 Women

25 Men

grit

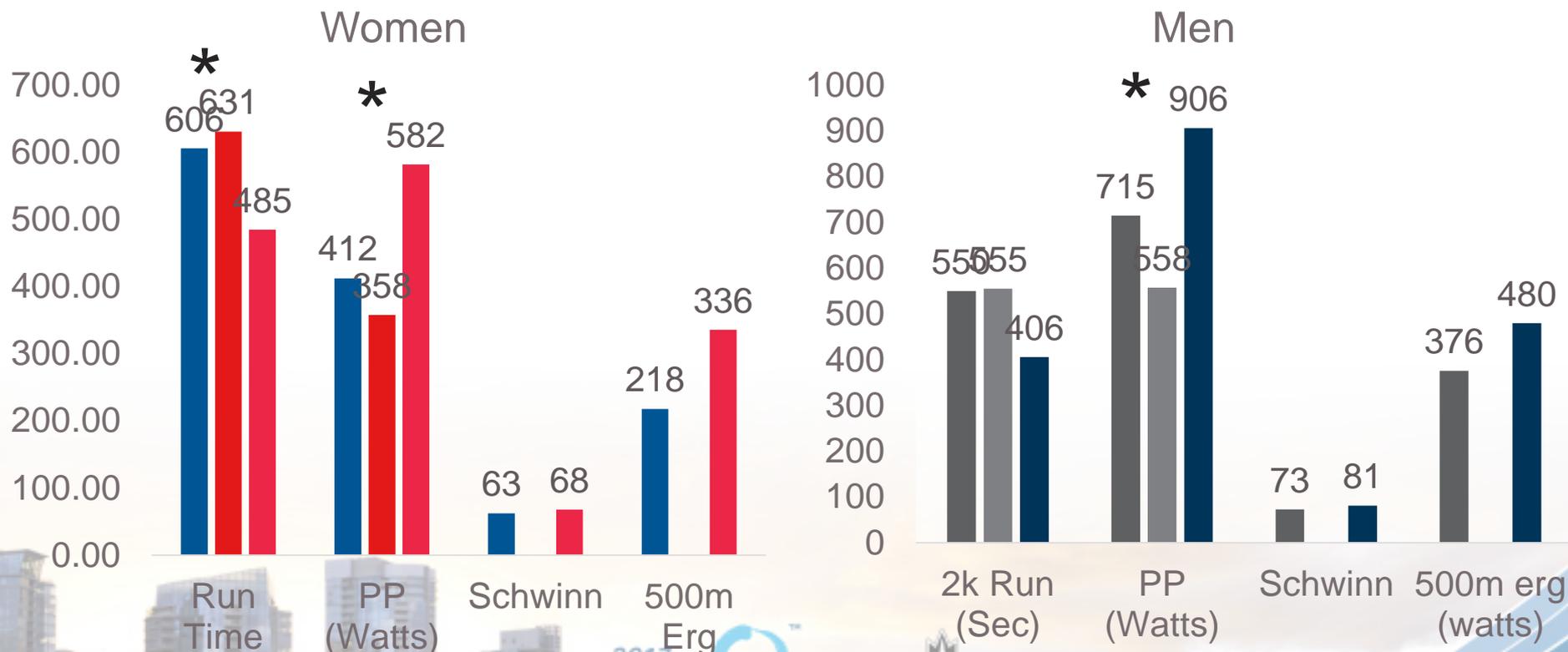
NOVICE TESTING

ANTHROPOMETRICS



NOVICE TESTING

PHYSICAL TESTING



TALENT ID / TALENT TRANSFER

2016/2017

60 Women

67 Men

23 Women

25 Men

Exams, wake-ups, Christmas,
injury, etc.

16
Women

7 Novice

7 Varsity

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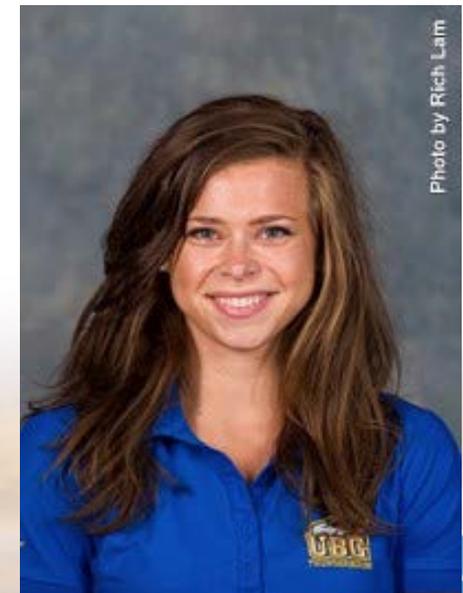
AVIRON

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UBC NOVICE PATHWAY INVESTIGATION

NOVICE YEARS 2008-2016

- » 1. UBC Novice (at end of novice season)
- » 2. UBC Varsity Development (on team, but not CURC Crew)
- » 3. UBC Varsity (CURC Crew)
- » 4. Canadian Development Team (U23)
- » 5. Sr. National Team



WOMEN'S NOVICE PATHWAY

STARTED IN OR AFTER 2008-2016



64 Novice



16 CURC
25%



Canadian Dev.
5%

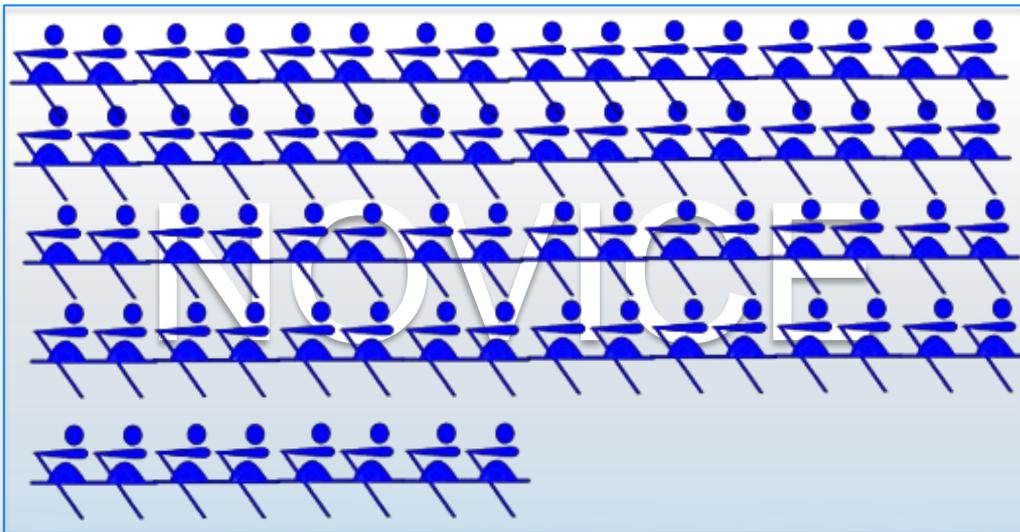


Sr. Team
1.6%



MEN'S NOVICE PATHWAY

STARTED IN OR AFTER 2008



72 Novice



9 CURC
13%



Canadian Dev.
1.4%



Sr. Team
1.4%



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UBC TO NATIONAL TEAM

UBC NOVICE PATHWAY



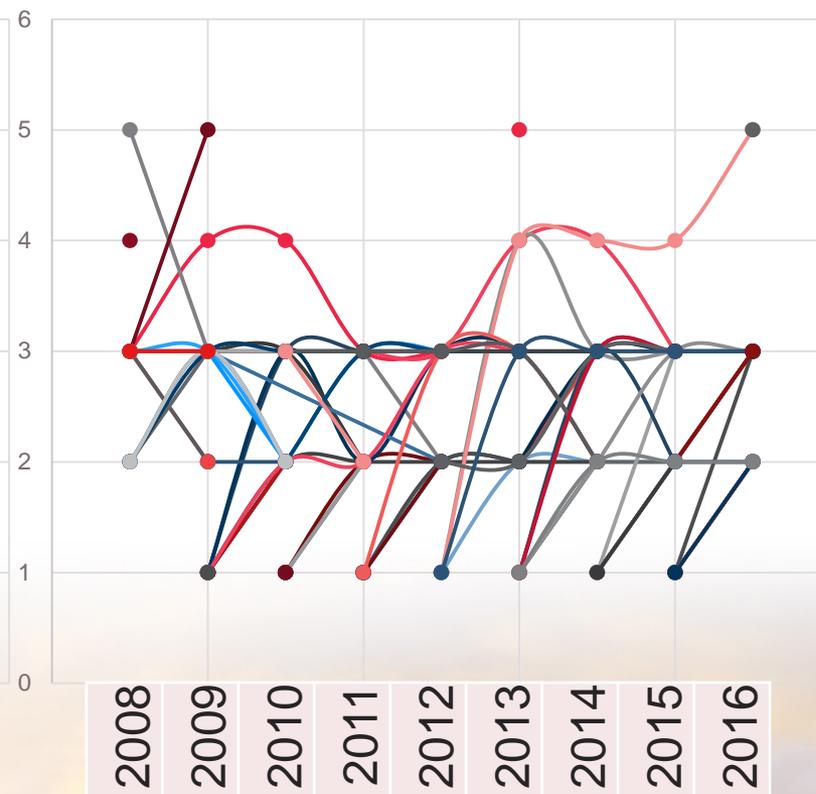
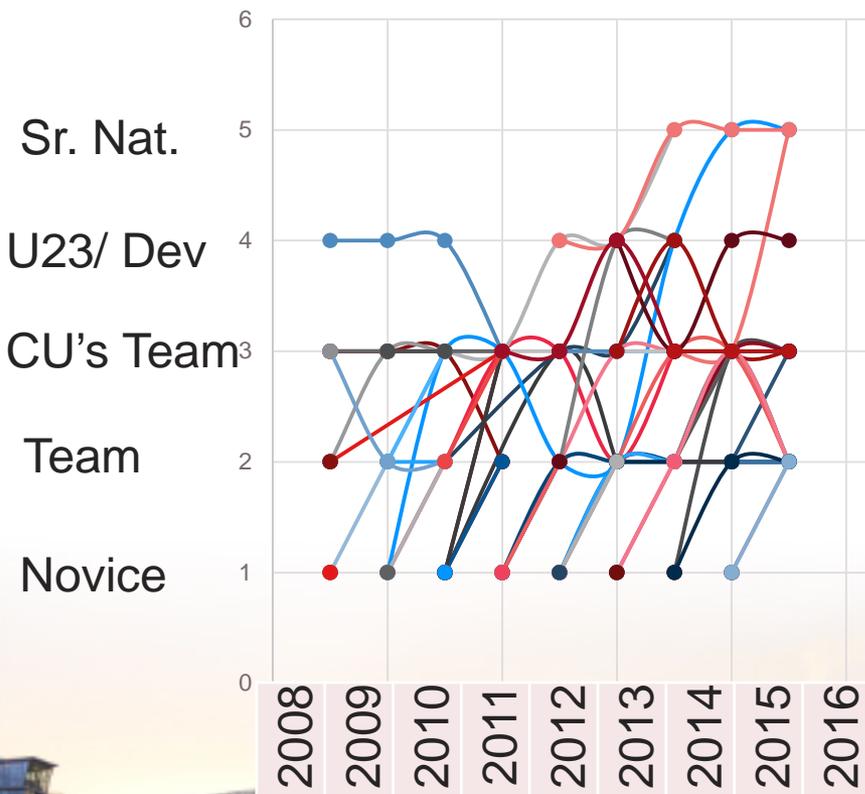
TEAM PATHWAY



PATHWAY PROGRESSION

Men's Conversion

Women's Team Conversion



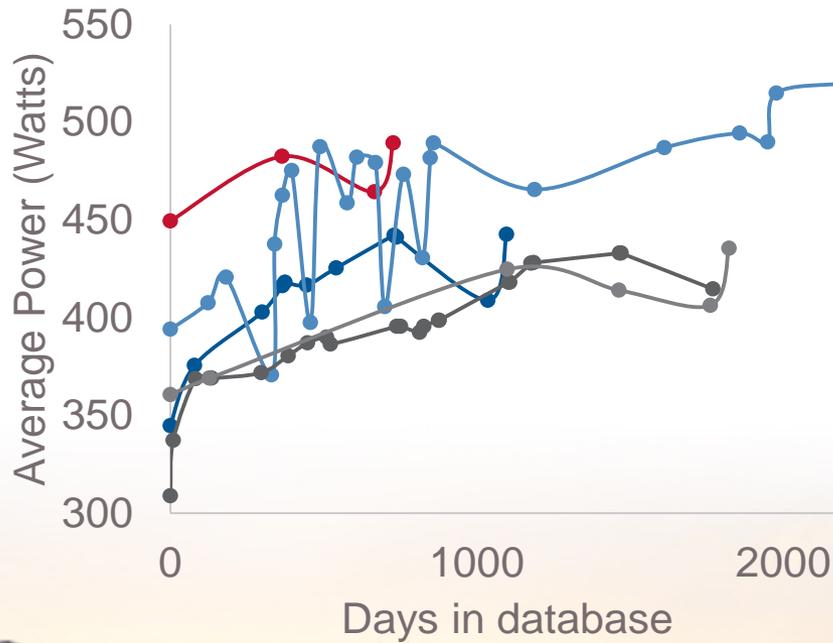
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ATHLETE DEVELOPMENT

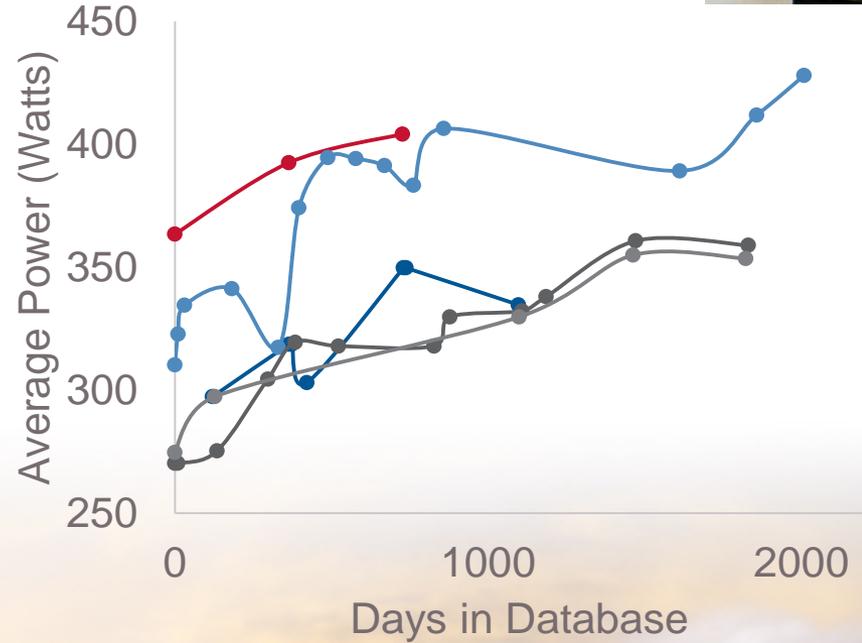
HIGH PERFORMERS



Men 2000m Erg Test

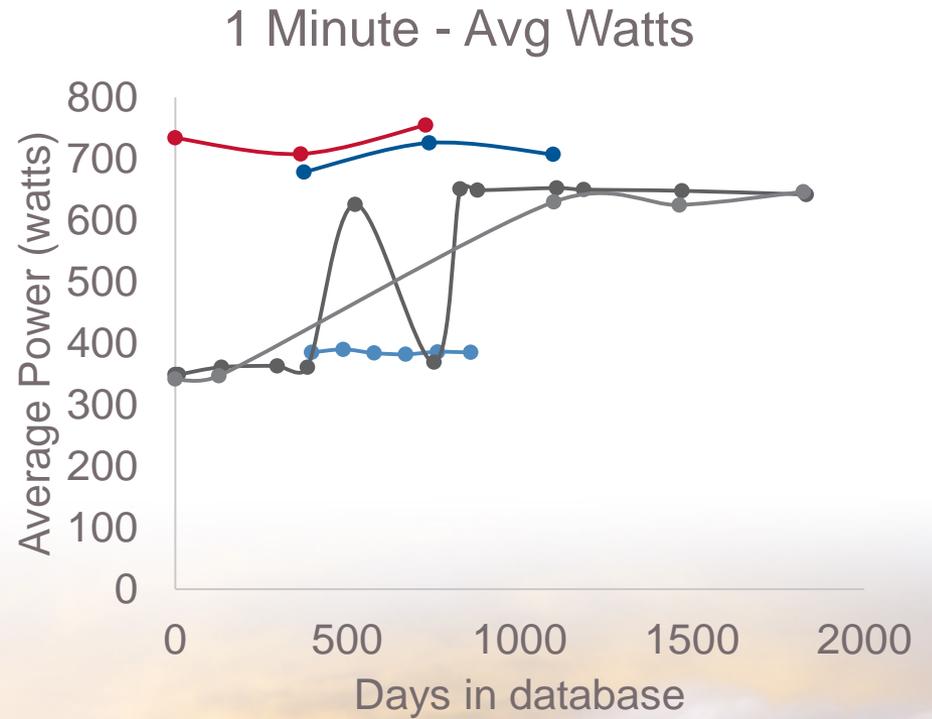
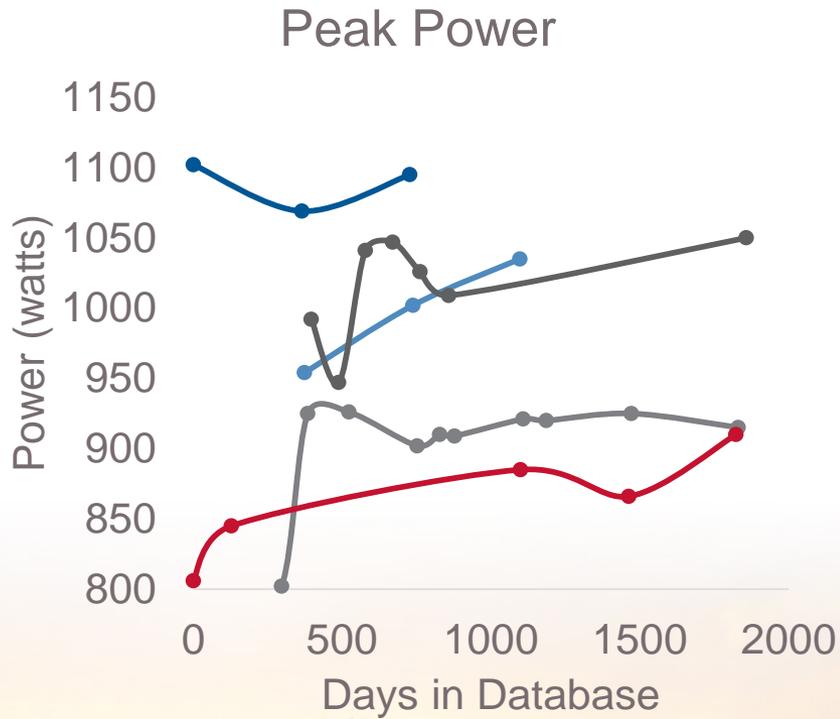


Men 6000m Erg Test



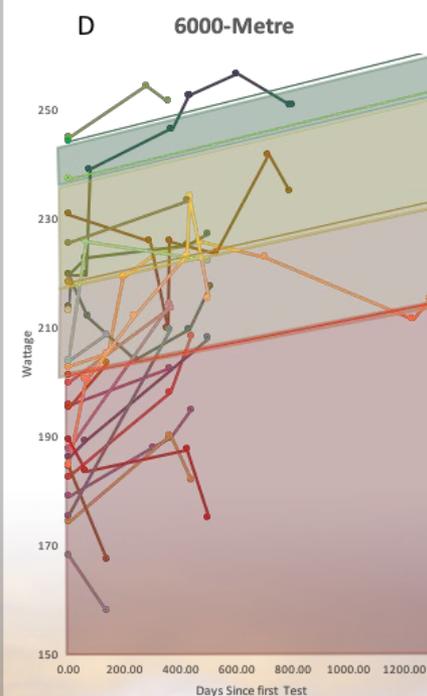
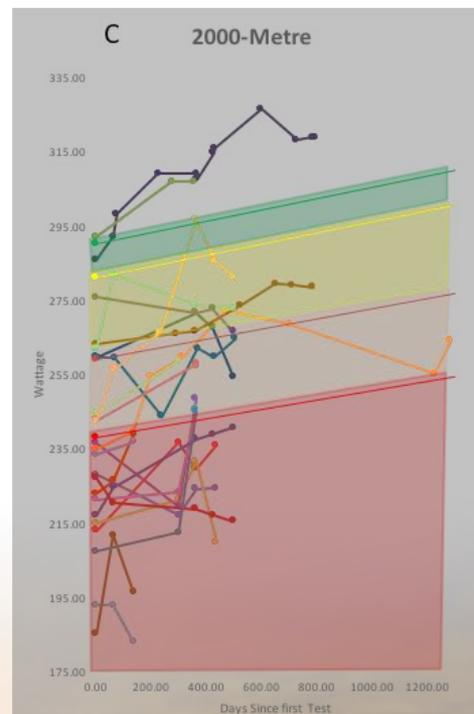
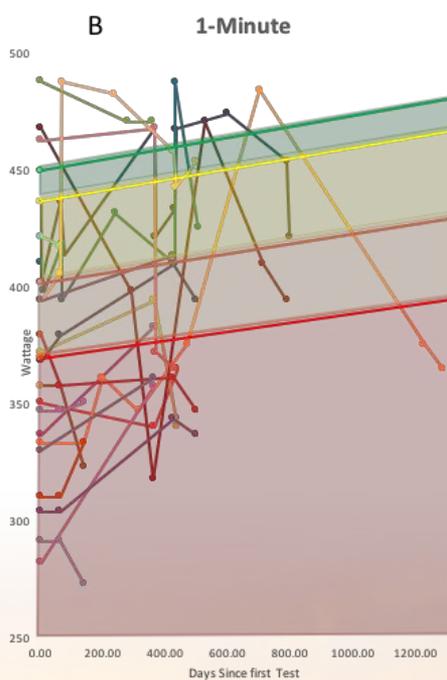
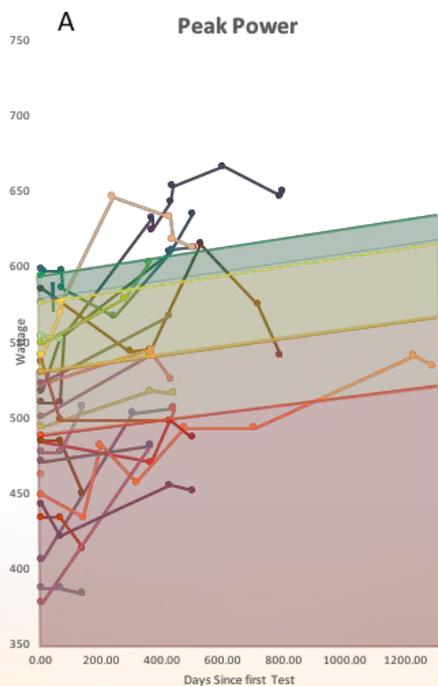
ATHLETE DEVELOPMENT

HIGH PERFORMERS



WHAT IS TYPICAL DEVELOPMENT?

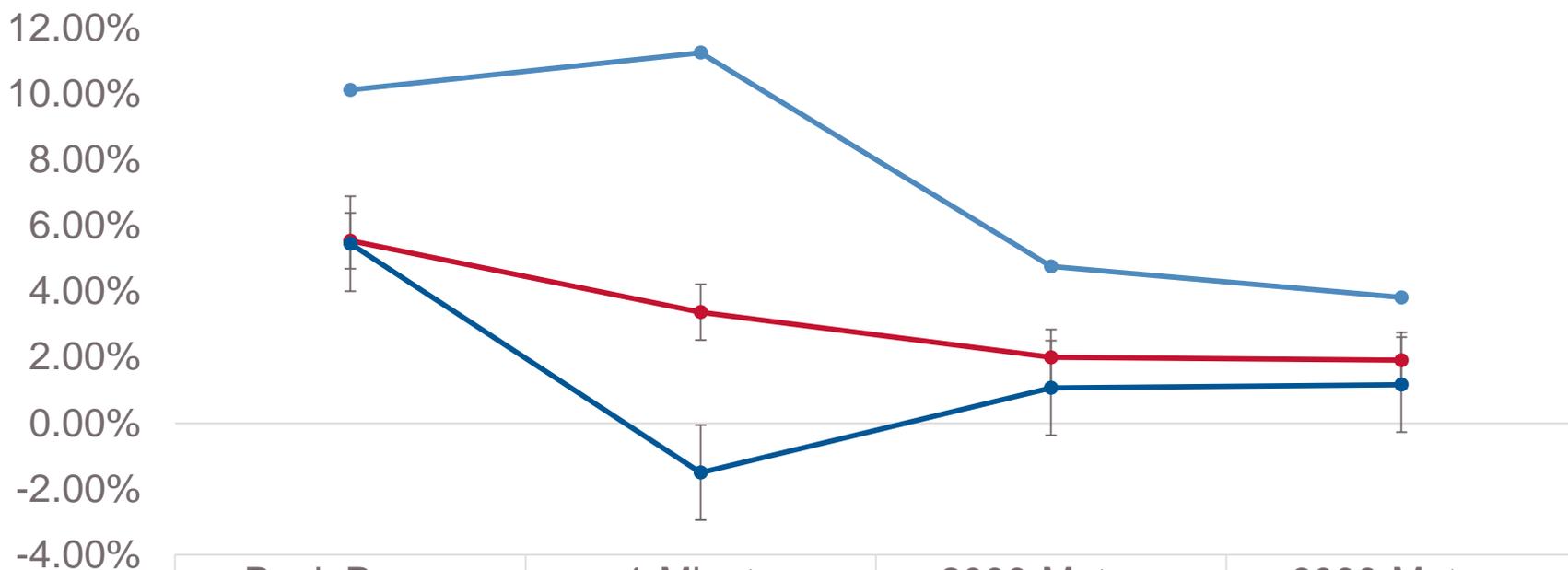
WOMEN'S TEAM VS RCA DEVELOPMENT PATHWAY



WHAT IS TYPICAL DEVELOPMENT?

UBC WOMEN

Female Rowers' Improvement



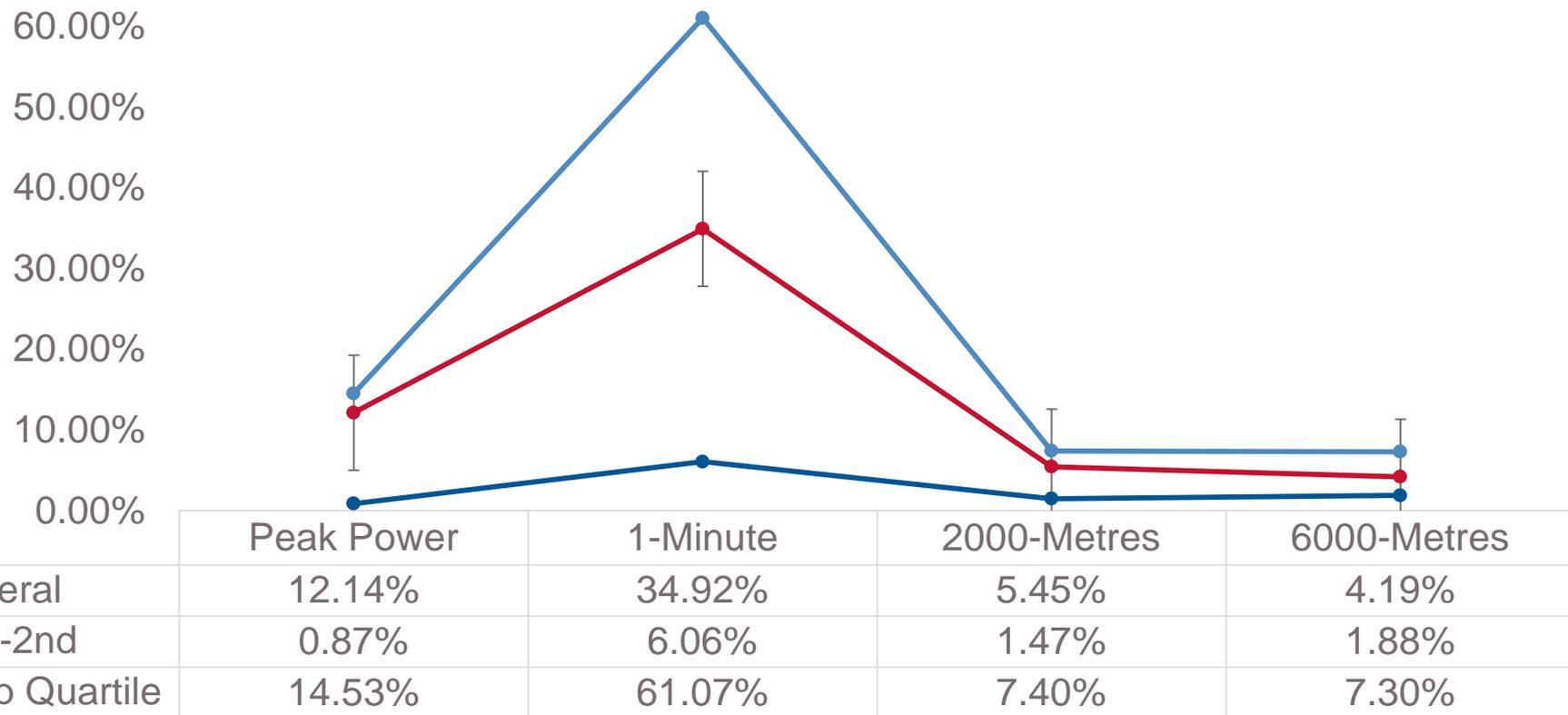
	Peak Power	1-Minute	2000-Metres	6000-Metres
Overall	5.54%	3.37%	2.00%	1.91%
1st-2nd	5.45%	-1.50%	1.07%	1.17%
Top Quartile	10.12%	11.25%	4.76%	3.82%

Overall 1st-2nd Top Quartile

WHAT IS TYPICAL DEVELOPMENT?

UBC MEN

Male Rowers' Improvement



Overall 1st-2nd Top Quartile

SUPPORTIVE TRAINING ENVIRONMENT



RESOURCES

- » Databasing: Excel Tricks for Sports -
- » <https://www.youtube.com/user/ExcelTricksforSports>

- » Lees, Katherine R., (2011). *Changes in Simulated 2,000 Meter Rowing Performance During 4 Years of Intercollegiate Women's Rowing*. Master's Theses. Paper 45.
- »
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THANK YOU



Mike Pearce



Craig Pond



Zoe Fettig Winn



Tristan Howarth

Session #:

Presentation Title:
Presented By:

Date: 2015-01-08



TALENT IDENTIFICATION AND DEVELOPMENT THROUGHOUT THE ATHLETE DEVELOPMENT PATHWAY

Session #:

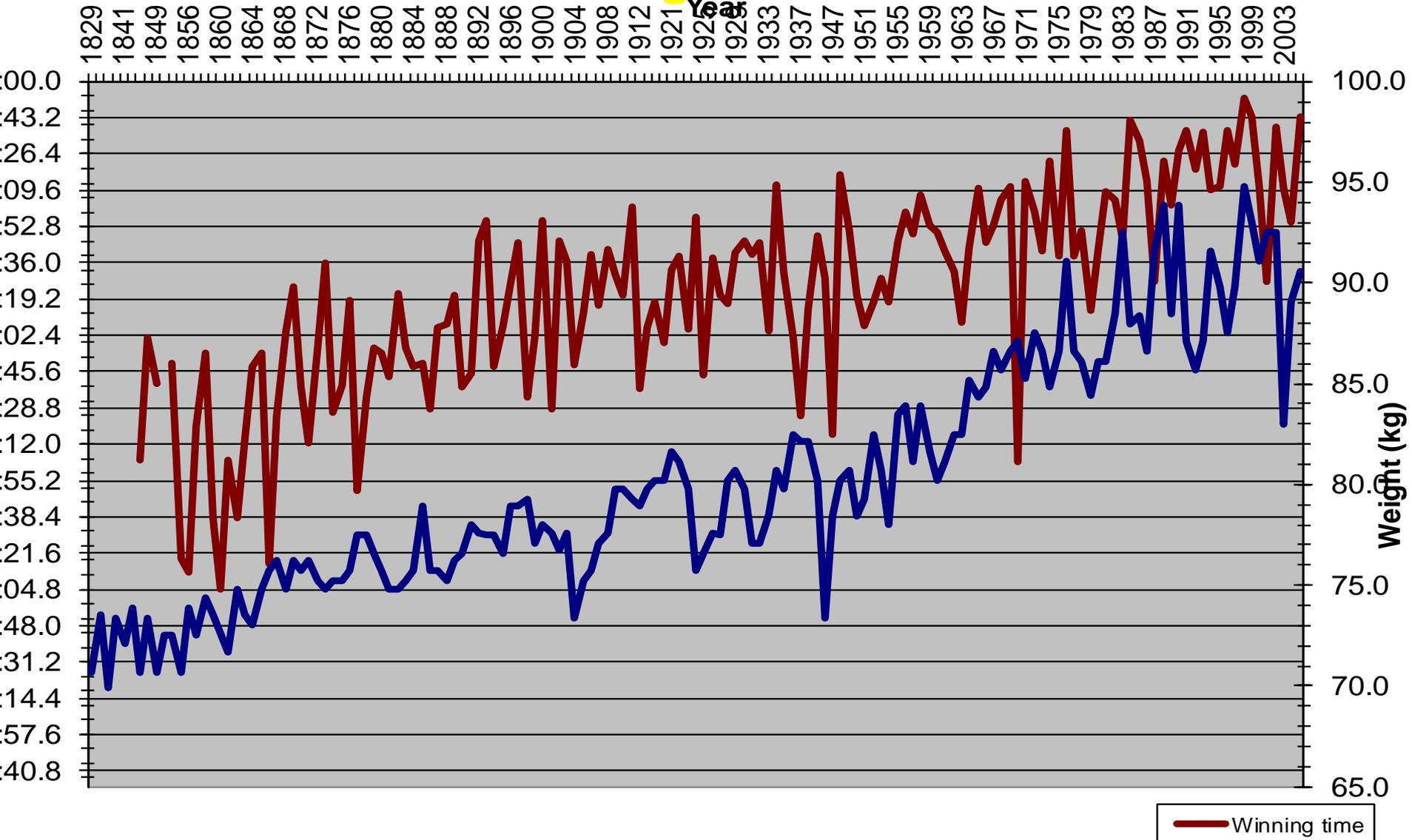
Presented By: Peter Shakespear RCA Director of TID and Development

Date: 2015-01-08

WHY TALENT IDENTIFICATION AND DEVELOPMENT ?

- » Funding is based predominantly on Olympic Gold Medal performance
- » Performances are always improving each Olympiad
- » Plan for future performance: TID can identify and nurture talent for the future

Cambridge/Oxford Boat Race 1829-2005



100M WORLD RECORD

TIME	NAME	YEAR	HEIGHT
9.95	Jim Hines	1968	184
9.93	Calvin Smith	1983	186
9.92	Carl Lewis	1988	191
9.90	Leroy Burrell	1991	185
9.86	Carl Lewis	1991	191
9.85	Leroy Burrell	1994	185
9.84	Donovan Bailey	1996	183
9.79	Maurice Greene	1999	175
9.77	Asafa Powell	2005	190
9.74	Asafa Powell	2007	190
9.72	Usain Bolt	2008	196
9.69	Usain Bolt	2008	196
9.58	Usain Bolt	2009	196

PRACTICAL ILLUSTRATION: WHAT IS TALENT ID?

- » How do you use your human resources
- » What athletes are directed to your best coach

DEVELOPING TID TESTS (A.I.S. CANBERRA)

EXTENSIVE STUDIES OVER 5 YEARS PRODUCED ACCURATE RESULTS

- » Comparison tests between winning and less successful athletes
- » Initial use of laboratory tests indicated significant differences
- » Development of field tests produced the same result – but with more portable and flexible equipment to take into schools
- » All tests had minimal skill or pacing requirements
- » no rowing specific tests were used



TEST ATHLETES

ANTHROPOMETRICS

Height | Arm span | Weight

STRENGTH: C2 DYNO

Measure: "WORK" Nm – [Force x Distance]

ENDURANCE: Schwinn Arm Leg Bike

Measure: RPM - Step test

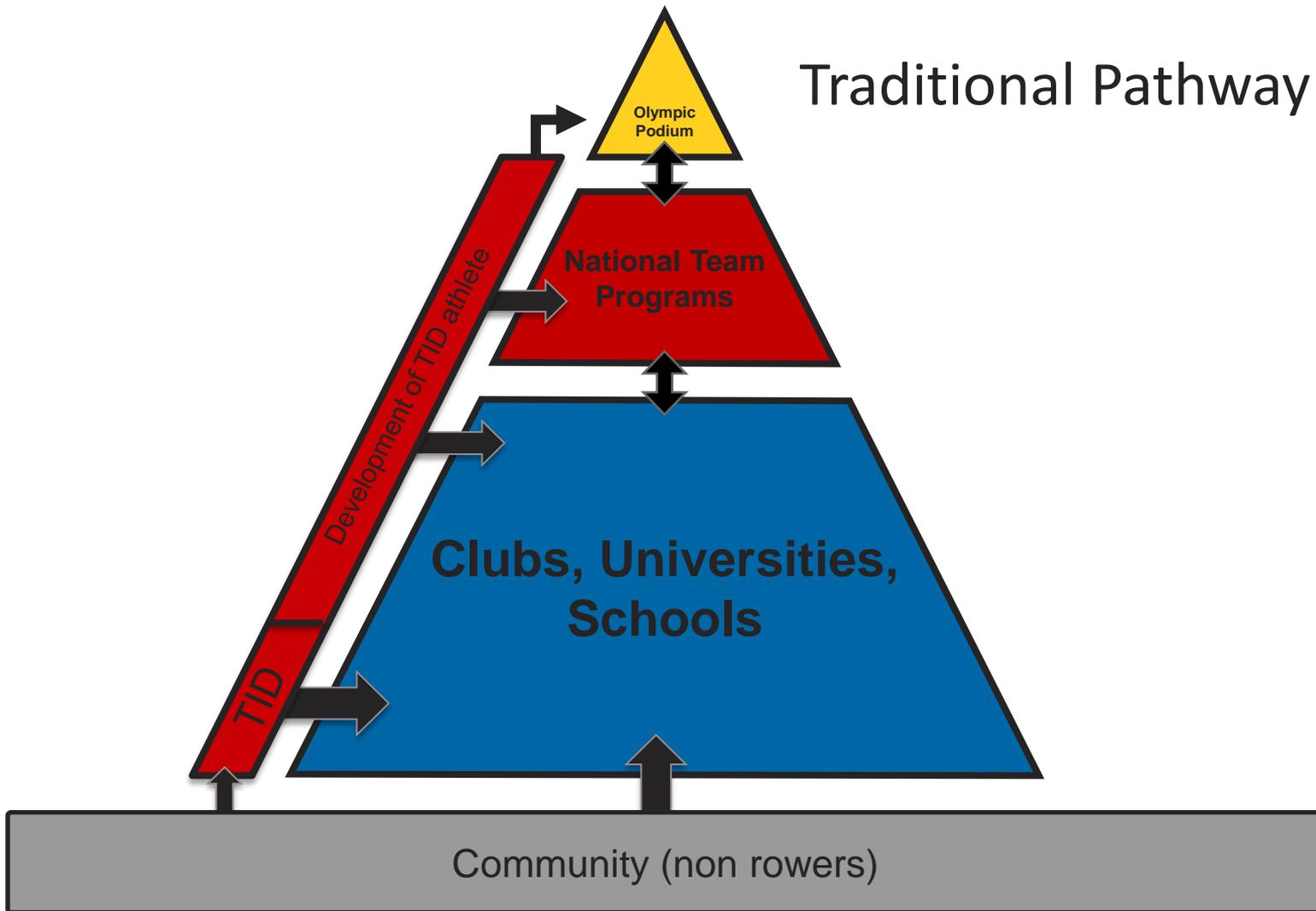




TID Selection Standards for Row To Podium U19 Athletes

	OPEN MEN		LIGHTWEIGHT MEN (18 YEAR OLD)		OPEN WOMEN		LIGHTWEIGHT WOMEN (18 YEAR OLD)	
	review minimum standard	upper selection standard	review minimum standard	upper selection standard	review minimum standard	upper selection standard	review minimum standard	upper selection standard
HEIGHT	186	193	175	180	175	183	163	170
ARMSPAN	186	193	175	180	175	183	163	170
ENDURANCE	85	90	85	90	70	80	70	80
LEG PRESS (3)	700	800	580	750	400	525	390	500
BENCH PRESS (3)	300	400	280	350	150	205	140	190
ARM PULL (3)	450	500	380	450	200	290	190	280
Sum of Leg Press(3) and Arm Pull(3)	1150	1300	960	1200	600	815	580	780

Traditional Pathway



TID WHAT IS POSSIBLE?

GB OLYMPIC ROWING 2012

- » GB - 4 gold medals - top rowing nation
- » OVER 25% of GB 2012 Olympic rowing team from TID non rowing sources. (*Aim 10%*)
- » 5 of the 10 rowers who won gold medals were from TID sources

ALEX GREGORY

Olympic
champion
after 11 years
of rowing



ANNA WATKINS

Olympic
Champion
after 9 years
of rowing



HELEN GLOVER AND HEATHER STANNING

Olympic
Champions
after 5 and 6
years of rowing



STAGES OF TID AND DEVELOPMENT

TID = building solid foundations 5%



Development = building on foundations 95%



PREVIEW OF TASK

1. No movement pattern as base - teach basic movement from zero
2. Anthropometric & engine qualities
3. Need to establish psych attributes incl love of rowing
4. Few will complete the journey
5. MINIMISE attrition – value rare talent!
6. Sequence designed from research and practice

TECHNIQUE= MOVING THE BOAT A LONG WAY BETWEEN STROKES FOR 2KM

1. Row a long stroke (levers)
2. Accelerate the BOAT (pressure – to finish)
3. Let the boat run (rhythm= control forward)
4. Correct body posture (core, lumbar spine, pelvic rotation)

LIMITS TO TALENT PATHWAY

- » “TRAINING WILL BEAT TALENT UNTIL TALENT TRAINS”
- » TID will never replace the regular role of clubs in providing the bulk of the top competitors
- » Early Maturation vs late maturation – different time of peaks in performance

PATHWAY OF NON-ROWER TO HIGH PERFORMANCE

- » Athletes are blank canvas (no faults, no skills)
- » Errorless learning and rapid development
- » Enthusiastic concentrated coaching
- » Ability to exceed perceived limits
- » Excellent coach development opportunities

DEVELOPMENT SEQUENCES

- » Balance ***before*** technique
- » Sculling ***before*** sweep
- » Power ***before*** endurance
- » Automate ***before*** extensive training
- » Automate ***before*** fatigue training
- » Posture ***before*** loading
- » Core ***before*** loading
- » Flexibility ***before*** loading

PATHWAY OF NON-ROWER TO HIGH PERFORMANCE

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CASE STUDY

GRAHAM PEETERS



3rd Generation Farmer

Rural Ontario

Minimal sport background

Identified: April 2012

Age at test: 16.75 (1996 birth year)

Height: 193.9 cm

Arm Span: 206.9 cm

Strength: 1417 nm

Bike: 90

GRAHAM PEETERS DEVELOPMENT CHALLENGES



Development Trials – May 2013

1x - 3rd of 13 boats

2x Matrix – Last place

Junior Selection – June 2013

1x – 1st of 12 boats

2x Matrix – Won every race

2014

U23 SELECTION: 1X – 2ND PLACE | 2X MATRIX – 1ST



World Rowing U23 Championships

BM4x : 7th place

BM4X AT WORLD CHAMPIONSHIPS ERRATIC PERFORMANCE BY YOUNG TALENT

- » 2014 – 7th place (injury)
- » 2015 – World U23 Champions (one change from 2014)
- » 2016 – 11th place (one change from 2015)

FUTURE POTENTIAL

Graham Peeters

Identified: April 2012

Birth year: 1996

Age at test: 16.75

Height: 193.9 cm

Arm Span: 206.9 cm

Strength: 1417 nm

Bike: 90

New Recruit

Identified: Sept 2014

Birth year: 1998

Age at test: 16.45

Height: 195.5 cm

Arm Span: 198.8 cm

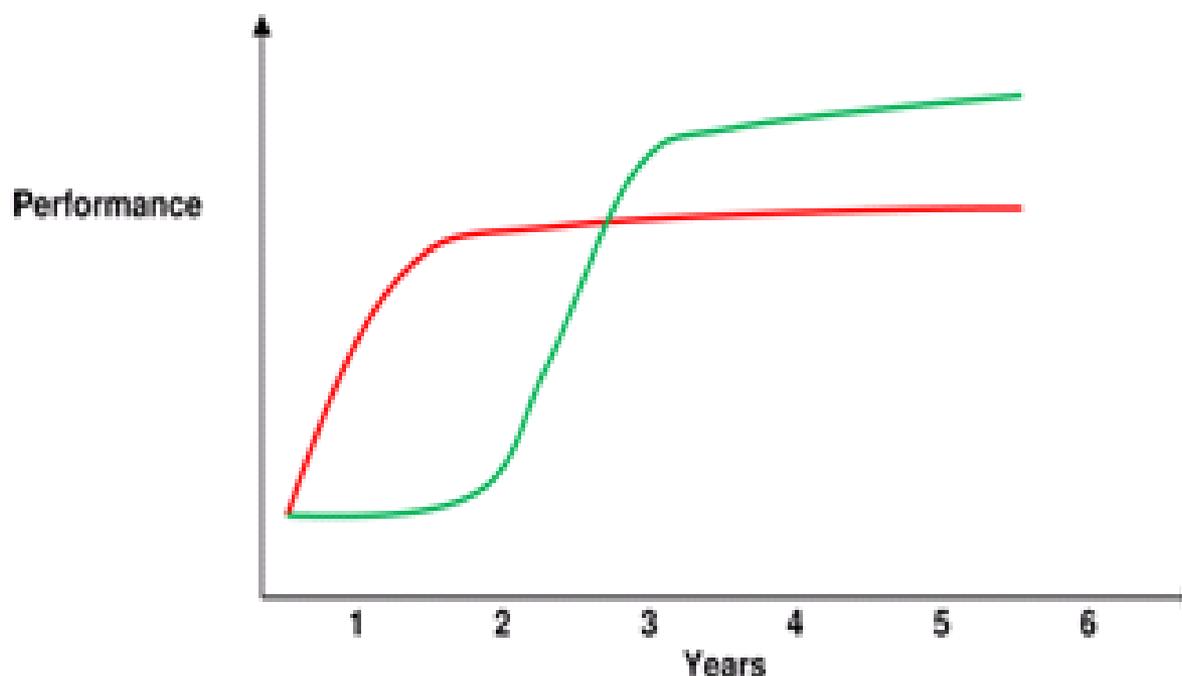
Strength: 1472 nm

Bike: 93

TECHNICAL /SKILL DEVELOPMENT

- » “Technique limited training” to maximise rapid but accurate technical development
- » Intense coaching (1:1 ideal)
- » Continuous feedback
- » Coach demands change from every feedback comment (improvement mentality)
- » **Eliminate technical limit** on later performance

HPDP RATIONALE FOR TECHNICAL DEVELOPMENT



Performance resulting from traditional Development (red) compared to extensive early skill development (green) in two highly talented TID athletes.

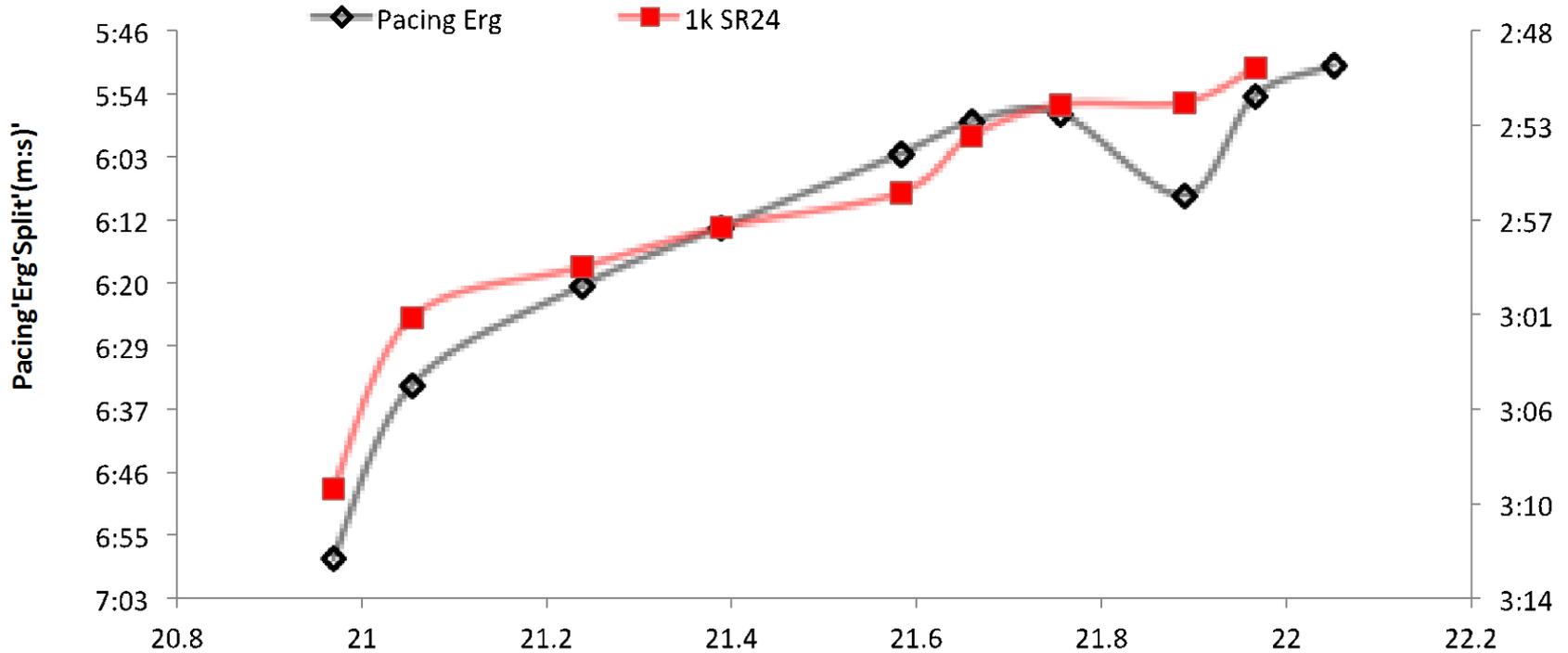


Australian Government
Australian Sports Commission



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ROLE OF TALENT AND TRAINING



» TID can provide 10% of the very best athletes

- The end