



## Coaching Philosophy and Principles in Middle Distance and Steeplechase in Norway

Henrik Ingebrigtsen og Bjørnar Ustad Kristensen



Eric Toogood, Sandnes IL  
Coaching Seminar Finland November 2011



1

## Sandnes

- Norges 8<sup>th</sup> biggest town
- 65 000 inhabitants
- Mild climate on the West Coast of Norway – mainly snow free winters



3

## Facilities

- Upgraded main stadium
  - One of the best stadiums in Norway
  - Upgraded for the Norwegian Championships in 2010
  - Polytan
- New indoor track
  - Completed 2011
  - Sandnes will stage the Norwegian Youths indoor championships 2012

4

## Good conditions all year



5

## Introduction

- 1500m training based on experience with Henrik Ingebrigtsen
- 3000m steeplechase training based on experience with with Bjørnar Ustad Kristensen

6

## Endurance Training

- Endurance = the ability to work at a relatively high intensity over long time
  - Aerobic endurance and
  - Anaerobic endurance
- 1500m training
  - Main focus on aerobic endurance (?)
    - Anaerobic endurance during sommer months – training and competition

7

## World Record Development – 1500m

- 3:35.6 Herb Elliott (AUS) Rome 06 Sep 60
- 3:33.1 Jim Ryun (USA) Los Angeles 08 Jul 67
- 3:32.16 Filbert Bayi (TAN) Christchurch 02 Feb 74
- 3:32.1 Sebastian Coe (GBR) Zurich 15 Aug 79
- 3:32.09 Steve Ovett (GBR) Oslo 15 Jul 80
- 3:31.36 Steve Ovett (GBR) Koblenz 27 Aug 80
- 3:31.24 Sydney Maree (USA) Cologne 28 Aug 83
- 3:30.77 Steve Ovett (GBR) Rieti 04 Sep 83
- 3:29.67 Steve Cram (GBR) Nice 16 Jul 85
- 3:29.46 Said Aouita (MOR) Berlin 23 Aug 85
- 3:28.86 Noureddine Morceli (ALG) Rieti 06 Sep 92
- 3:27.37 Noureddine Morceli (ALG) Nice 12 Jul 95
- 3:26:00 Hicham el Guerrouj (MOR) Rome 14 Jul 98

Norwegian Record 3.37,4  
Lars Martin Kaupang 1976

Henrik Ingebrigtsen 2010  
Norwegian Junior Record  
3.38,61

8

## Moscow 1980

- 61.6, 63.3 54,6 the first three laps
  - Final 800m 1.48.5
  - Final 300m i 39
  - Final 200m i 24.7
  - Final 100m i 12.1
  - Result – 3.38.4



Sebastian Coe winning the 1500 meters in 1980 after his disappointing second-place finish in the 800. Coe had run the last lap in 52.2 seconds and the final 100 meters in 12.1!

9

## Herb Elliot – Rome 1960



*Herb Elliot (fourth from the right) en route to the Olympic gold medal in 1960*

10

## Statistics Henrik – born 24.2.91

- 800m:
  - 1.50,84 (Norwegian Championships Sandnes 21.8.2010)
- 1500m:
  - 3.38,61 (Leuven, Belgium 14.8.2010)
- 2000m:
  - 5.41,03 (1st ranked senior 2009)
- 3000m:
  - 7.58,15 (Bislett 19.5.2010)
- 3000mH:
  - 8.52,56 (3rd ranked senior 2009)

11

## Kondis interview 2010

- We are not doing anything special in training. During the week we do a lot of threshold training with lactate measurement and controlled intensity. It is mainly the quality of the training sessions that is given priority and not large training volumes.
- I tend to maintain a stable training volume throughout the year and this is one reason why I am in good shape for most of the season.
- Here in Sandnes I run most of my training sessions alone, but twice a week we have joint training sessions in Sandnes Athletics Club
- As I train faster than most of the other club members, it is usually only warm-up and warm-downs that are done with other club athletes, states Henrik Ingebrigtsen that has stayed mainly injury free and stayed clear of illness in his career and he hopes to maintain this trend.

12

## Development - Henrik

Year	Age	800m	1500m	3000m
2004	13	2.15,11	4.30,63	-
2005	14	2.04,56	4.22,48	9.20,18
2006	15	1.58,89	4.04,15	9.00,93
2007	16	1.54,26	3.54,08	8.25,77
2008	17	1.52,51	3.50,63	8.17,96
2009	18	1.51,34	3.44,53	8.08,69
2010	19	1.50,84	3.38,61	7.58,15
2011	20	1.54,72	3.39,50	-

Henrik has trained in my group since autumn 2004

13

## Henrik – the athlete

- Goal oriented
- Very ambitious
- Disciplined
- Mentally – “Very Tough”
- Has trained systematically for many years
- Allround
  - Excellent cross country skier – national top level
- Loves competition
  - Will force “his will” on a competition

14

## Support Team

- Bjørn Steinar Nedrebø – doctor – Stavanger University Hospital
- Gjert Ingbrigtsen – father
- Lene Authen – physiontherapist
- Leif Inge Tjelta/Asle Tjelta – Physiological testing – University of Stavanger

15

## The Challenge

- Main focus
  - 1500m
    - Top aerobic capacity essential
    - Speed – competition specific
  - 800m
    - Aerobic capacity less important
    - Anaerobic capacity essential
    - Speed – competition specific

16

## Basic principles

- Training must be tailored to the athlete
- Young athletes must develop over time
- Focus is on building a solid aerobic capacity through
  - Easy long runs
  - Threshold training
  - (altitude training)

17

## Basic principles

- Optimal development of anaerobic capacity
  - Intervals with good speed and long recovery
  - Limit these sessions to competition season – not too many
- Development of speed
  - Training sessions that are suited to competition speed for 800m & 1500m
  - Sprint sessions
  - Strength, circuit training, plyometrics

18

## Training zones

Threshold intervals –  
foundation building in  
winter

Treningszone /treningsform	Laktat (mmol/l) LT-1710	Prosent av maksimal hjerterefrekvens	Effekt
1: Rolig langtur	0.7-1.7	60-72.5%	økonomisering
2: Langtur	1.7-2.6	72.5-82.5%	økonomisering
3: Maraton fart: hurtig langkjøring eller lange intervaller / fartslek	2.6-3.6	82.5-87.5%	ATminus- AT
4: ½ maraton fart og litt raskere hurtig langkjøring eller lange intervaller / fartslek	3.6-5.8	87.5-92.5%	AT- ATplus
5: 1000m-3000m fart: korte og lange intervaller / fartslek / bakkeløp	5.8-8.7	92.5-97%	ATplus/VO2 maks
6: 1500m-800m fart: 30-120 sekunds intervaller i konkurrans fart	over 10		Anaerob tstrening
7: 400m-200m fart: 15-45 sekund opp mot maksimal innsats	over 10		anaerob tstrening
8: alactacid	Sprint		hurtighet

“5-7” sessions

“anaerobic sessions”

20

## Training intensity



21

## Lactate measurement & heart-rate monitoring



- Quality assurance of training sessions
- Henrik measures lactate in all threshold training sessions and 5-7 sessions
- Usually no lactate measurement for training in zones =>8
- Heart rate monitors used extensively

22

## Typical training sessions winter

- 5x6 min threshold (gravel path or treadmill)
  - Lactate 2-3
- 12x1000m (1 min rest) – gravel alt 20-25 x 400m (30 secs)
  - Lactate 2-3
- 2x10-15x200m (30 secs – 1 min – 5 min between sets)  
Lactate 2-3 and also 5-7
- Hill runs – 2x10x40-45 secs (jogg down, 5 min between sets)
- Long runs
  - 10-15km
- Sessions per week running: 12-14
- Weekly volumes approx: 140-150km

23

## Summer training

- Typical summer as a junior athlete
  - Stay in shape over a sustained period
  - Sharpen up for important races: Gothenburg Youth Games, Tyrving Youth Games, Norwegian Youth Champs, Norwegian Junior Champs, Norwegian Senior Champs
  - Training
    - Maintain the aerobic foundation
      - Steady running, high volume threshold runs
  - Develop anaerobic capacity
    - High speed intervals, good recovery

24

## Summer sessions

- 12x1000m (1 min) – always on gravel paths
  - Lactate 2-3
- 2x8-10x200m (30 sec) gravel path or track
  - Lactate 5-7 (but also 2-3!) – speed 32...28
- 5x2x300m (jog 100m, 3 mins between sets)
  - Lactate 5-7 (speed 48...45 start slow...)

25

## Summer (continued)

- May 2010: (high volume/low intensity)
  - 2x10x200m (30 secs + 5 mins)
  - 29, 30, 30, 29.5, 29, 29.4, 29, 29, 29, 29, 29, L=6.0 after 10 and L=6.8 after 20 (same speed both sets)

26

## Summer (continued)

- Exception:
  - 13.5.10 3+3 x 1000m
  - 3.07 (1 min) 2.59,9 (2 mins) 2.58,5 L=2,2
  - 2.42 (1 min) 2.38 (2 mins) 2.35 L=10,4
  - (on gravel path with training shoes)

27

## Altitude training

- Henrik has a number of altitude training camps
  - First time in Dullstroom February 2008
    - Extreme focus on lactate measurement on steady runs and intervals – low lactate
    - Walked on hills the first few days at altitude even during "slow" runs
  - Henrik has been to St. Moritz (Switzerland) a number of times
    - Good experience from all altitude training camps
    - Shorter altitude periods compared to Bjørnar Kristensen – Henrik comes more often
    - Training is otherwise the same as at sea level

28

## 2007 16 years old – Breakthrough year!



- Henrik reached Norwegian senior national level in 2007 at the age of 16!
- May Track Meet Haugesund
  1. Henrik 8.33,63
  2. Lars Erik Malde 8.38,67

29

## Henrik Ingebrigtsen set a new age record for 3000m in 2007

- There was a strong mens field for the 3000m in the Tyrving Games on Sunday night. The athlete that impressed most of all had to run outside the competition in order to be allowed to run with seniors
- 16 year old Henrik from Sandnes ran 8.30,79 which was over 2 seconds quicker than the 29 year old age record set by Bernt Helge Thorkildsen
- Henrik was number 3 but is only mentioned in the footnotes of the results
- Daabayaa Badhaso won the race in 8.26,10

30

## Norwegian Championships Askim 2007

5. place Henrik Ingebrigtsen, Sandnes IL 3,54,08



Photo Kondis

31

## Norwegian Championships 2008 Trondheim, final 1500m (17 år!)



Photo Kondis

1. Morten Kolstø Velde Haugesund IL 3,51,48
2. Einar Gauslaa Bergem Ren-Eng, FIK 3,52,41
3. Nur Aden Tjalve, IK 3,52,70
4. Henrik Ingebrigtsen Sandnes IL 3,52,87
5. Joachim Brøndbo Steinkjer Friidrettsklubb 3,53,84



## Nordic Junior Championships Bergen 2008 (17 years)



Photo Kondis

- New personal best but only 2 place
- 3.50,68!

33

## Treningsdagbok

Juli **2008**

- Morgen:** 40 min rolig jogg. Puls: 132. 9 km.  
**Ettermiddag:** 17 min rolig jogg. 8 min drill. 4x80-100m st. løp.  
 8x1000m: 3,12,6 – 3,12,3 – 3,06,1 – 3,13,7 – 3,05,5 – 3,17,1 – 3,08,6 – 3,18,2.  
 6x100m koordinasjonsløp. 12 min rolig nedjogg.
- Morgen:** 40 min rolig jogg. Puls: 138. 8,4 km.  
**Ettermiddag:** 50 min rolig jogg. Puls:138. 10,5 km.
- Morgen:** 40 min rolig jogg. Puls: 138. 7,5 km.  
**Ettermiddag:** 20 min rolig jogg. 8 min drill. 4x80-100m st. løp.  
 4x300m: 46,2 – 47,3 – 45,8 – 46,5. 5x200m: 29,5 – 29,4 – 28,9 – 28,7. 2x150m: 19,8 – 18,8.  
 11 min rolig nedjogg.
- Morgen:** 40 min rolig jogg. Puls: 144. 8,1 km.  
**Ettermiddag:** 53 min rolig jogg. 4x80-100m st. løp. Puls: 143. 11,6 km.
- Morgen:** 40 min rolig jogg. Puls: 142. 8 km.  
**Ettermiddag:** 20 min rolig jogg. 8 min drill. 4x80-100m st. løp.  
 3x400m: 61,1 – 63,1 – 60,4. 3x200m: 29,9 – 29,5 – 29,4  
 11 min rolig nedjogg.
- Morgen:** 30 min rolig jogg. Puls: 136. 6 km.  
**Ettermiddag:** 30 min rolig jogg. 4x80-100m st. løp. Puls: 138. 6,8 km.
- Morgen:** 30 min rolig jogg. Puls: 131. 6 km.  
**Ettermiddag:** 30 min rolig. 4x80-100m st. løp. Puls: 134. 6,8 km.
- Morgen:** 15 min rolig jogg. 2x80-100m st. løp. Ca. 3 km.  
**Ettermiddag:** Folksam Grand Prix Solluntuna 1500 meter.  
 Oppvarming: 25 min rolig jogg. 5 min drill. 10 min hurtighet. 3,51,56 (Ny pers)  
 Nedjogg: 20 min + 10 min.

34

## Nordic Junior X-country 6km 2008



Photo Kondis

- 1 Sondre Nordstad Moen 91 NOR 18,15
- 2 Sindre Burås 89 NOR 18,51
- 3 Andreas Åhwall 89 SWE 18,54
- 4 Mikael Ekvall 89 SWE 18,55
- 5 Henrik Ingebrigtsen 91 NOR 18,57



35

## Treningsdagbok

### Januar 2009

1. **Morgen:**  
**Ettermiddag:** 20 min rolig jogg, 8 min drill. 6x80-100m st. løp.  
2x(4x400m+5x300m+6x200m) Laktat: 1,8 og 3,6.
2. **Morgen:** Friøkt. Reise til Sør-Afrika.  
**Ettermiddag:** Friøkt. Reise til Sør-Afrika.
3. **Morgen:** 47 min rolig jogg, Puls: 146. 10 km.  
**Ettermiddag:** 50 min rolig jogg, Puls: 145. 10 km. 2x80-100m st. løp.
4. **Morgen:** 72 min rolig jogg, Puls: 145. 4x80-100m st. løp.  
**Ettermiddag:** Friøkt.
5. **Morgen:** 15 min rolig jogg. 3x10 min Terskel. Laktat- Etter 1: 4,0. Etter 2: 2,0. Etter 3: 2,2.  
11 min rolig nedjogg. 14 km.  
**Ettermiddag:** 50 min rolig jogg, Puls: 141. 10 km. 1,1
6. **Morgen:** 16 min rolig jogg, 8 min drill. 6x80-100m st. løp.  
2x10x300m (55-57 sek) Laktat 1. serie: 7,6(<3 - 178). 2. serie: 7,0(<3 - 182).  
10 min rolig nedjogg. 12 km.  
**Ettermiddag:** 49 min rolig jogg, Puls: 140. 10 km. 8x60m (90 % innsats).
7. **Morgen:** Friøkt.  
**Ettermiddag:** 74 min rolig jogg, Puls: 142. 15 km.
8. **Morgen:** 55 min rolig jogg, Puls: 145. 10 km.  
**Ettermiddag:** 15 min rolig jogg, 8 min drill. 4x80-100m st. løp.  
10x1000m: 2,23,7 - 3,38,9 - 3,36,7 - 3,31,3 - 3,32,3 - 3,34,3 - 3,29,1 - 3,40,9 - 3,37,6 - 3,41,7.  
Laktat 2: 2,3 - 5: 2,9 - 7: 4,0. 16 min rolig jogg. 17 km.
9. **Morgen:** 50 min rolig jogg, Puls: 148. 10 km.

36

## Training session – June 2009

- Monday 8 June
  1. session – easy run
  2. session – easy run
- Tuesday 9 June
  1. session - threshold 5x6 mins
  2. session - 2x10x150m (20 secs) 5 mins  
between sets (not always timed)

37

## Training session July 2009

### 5 July

1. session – easy run
2. session - track 3x3x300m (rest - walk 100m,  
walk 500m between sets)
  - 42.7, 45.7 45.6 L=7.8
  - 44.7, 44.4, 44.4 L=7.7
  - 41.9, 41.0, 41.6 L=10.6

38

# Summer 2009

Mandag 29.6 • Rolig tur 20 mins Reise til St. Moritz • Rolig tur 50 mins hvis tid	Tirsdag 30.6 • Rolig tur 40 mins • Rolig tur 50 mins	Onsdag 1.7 • Rolig tur 40 mins • Rolig tur 50 mins?	Torsdag 2.7 • Rolig tur 40 mins • Rolig tur 50 mins	Fredag 3.7 • Rolig tur 50 mins • Baneintervall 10x150m - gå tilbake	Lørdag 4.7 • Rolig tur 40 mins • Rolig tur 50 mins	Søndag 5.7 • Rolig tur • Bane 3x3x300m (pause gå 100m, seriepause gå 500m) • 42.7, 45.7 45.6 L=7.3 • 44.7, 44.4, 44.4 L=7.7 • 41.9, 41.0, 41.6 L=10.6
Mandag 6.7 • Rolig jogg 40-50 mins Fly hjem til Stavanger	Tirsdag 7.7 • Rolig tur 40 mins • Rolig tur 50 mins	Onsdag 8.7 • Rolig tur 40 mins • Intervall 600 (40 seks) 300 (30 seks) 200 (10 seks) 200m	Torsdag 9.7 • Rolig tur 40 mins • Rolig tur 50 mins	Fredag 10.7 • Rolig tur 40 mins • Rolig tur 50 mins	Lørdag 11.7 • Rolig tur 40 mins • 1x1000m + 2 x 300m Fart, 2.30 - NB Hard økt	Søndag 12.7 • Rolig tur 30 mins • Rolig tur 50 mins
Mandag 13.7 • Rolig tur 40 mins • Terske! 12x1000m (1 min)	Tirsdag 14.7 • Rolig tur 40 mins • Rolig tur 50 mins	Onsdag 15.7 • Rolig tur 40 mins • 2x8x200m (fart ca 30 seks) 30 seks pause	Torsdag 16.7 • Rolig jogg 30 mins • Rolig jogg 30 mins	Fredag 17.7 • Rolig jogg 30 mins • Rolig jogg 30 mins	Lørdag 18.7 • Jogg 15 mins Heusden 1500m	Søndag 19.7 • Rolig tur 60-70 mins
Mandag 20.7 • Intervall 8x200m jogg 200m - fart ca 27seks	Tirsdag 21.7 • Rolig jogg 30 mins • Rolig jogg 30 mins	Onsdag 22.7 • Rolig jogg 30 mins • Rolig jogg 30 mins	Torsdag 23.7 • Jogg 15 mins • Forsøk 1500m EM U20 Serbia	Fredag 24.7 • Rolig tur 30 mins • Rolig tur 20 mins • Mulig 800m forsøk hvis ingen 1500m finale	Lørdag 25.7 • Jogg 15 mins • Finale 1500m EM U20 Serbia	Søndag 26.7 • Rolig tur 40 mins • Rolig tur 50 mins

39

# 2009

- Heusden 18.7
  - 1 place 3.44,53
- European Novi Stad 25.7
  - 6 place heat 1500m 3.53,69 with fall!
  - 6 place semi final 800m 1.53,01
- Norwegian Champs Lillehammer 2.8
  - 2 place 1500m 3.48,43



Photo Kondis

40



2010

41



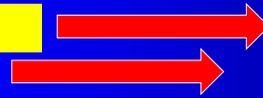
## Main focus 2010 - Henrik

- 1500m is the main distance
  - But also 800m, 3000m
- Main goals:
  - World Junior - Canada
  - European Games Senior – Barcelona, Spain
- Other important competitions
  - Norwegian Champs X-country
  - Norwegian Junior Championships
  - Norwegian Senior Championships

42

## Competition plans 2010

### Main goals



3.1-21.1	Høydetrening Dullstroom
27.1.2010	TIS spenst og hurtighet - Knut Jæger
2.2.2010	1500m Wien
12.2.2010	Samling TIS Oslo
19.3-6.4	Treningsleir - Albufeira Portugal
10.4.2010	NM Terrenløp - kort løype Tønsberg
16.4.2010	Samling TIS Oslo
24.4.2010	Siddisløpet - Stavanger
8.5.2010	Holmenkollen
19.5.2010	3000m Bislett - Åpningsstevner
26.5.2010	1500m Nijmegen
29.5.2010	<b>1500m - 3000m</b>
19-20.6	1500m E-Cup Bergen? (800m/3000m)
4.6.2010	1500m - Bislett Games MU23
19.6.2010	1500m - European Team Champs Fana
5.6-13.6	Høydetrening St. Moritz
1.7.2010	800m Folksam Grand Prix Sollentuna
2.7-4.7	800m/1500m VU Spelen Gøteborg
5.7-12.7	Høydetrening St. Moritz
10.7.2010	1500m KBC Nacht - Heusden
20.7.2010	1500m R1 Junior VM Moncton Canada
22.7.2010	1500m Finalen Junior VM Moncton Canada
23.7.2010	<i>800m R1 Junior VM Moncton Canada</i>
24.7.2010	<i>800m Semifinale Junior VM Moncton Canada</i>
25.7.2010	<i>800m Finale Junior VM Moncton Canada</i>
27.7.2010	1500m Round 1 EM Barcelona
28.7.2010	1500m Semifinalen EM Barcelona
30.7.2010	1500m Finale EM Barcelona
6.8-8.8	800m/1500m Junior NM, Askøy
20.8-22.8	800m/1500m NM Sandnes
3.9-5.9	800m/1500m UM Molde

43

## May 2010 – the season started well

- 10.4 – Norwegian X-Country Champs – Tønsberg  
1 place  
– Henrik's first national senior championship gold
- 25.4 – Siddisløpet (8km) – 2 place (pb)
- 19.5 – 3000m 1 place 7.58,15 (2nd Jukka Keskisalo 8.00,96)

44



## Training May 2010

Dag	Dato	1 økt	km	2 økt	km	Total uke
Mandag	17.05.2010	lavterskel 5x6 mins	10	Intervall 6x1000m 4-5 laktat terskel 1 min	10	141
Tirsdag	18.05.2010	rolig langtur	10	Rolig langtur	8	
Onsdag	19.05.2010	rolig langtur	10	Bislett 3000m	10	
Torsdag	20.05.2010	lavterskel 5x6 mins	10	Rolig langtur	10	
Fredag	21.05.2010	rolig langtur	10	Rolig langtur	10	
Lørdag	22.05.2010	lavterskel 5x6 mins på mølla	10	Baneøkt 5-6x300m - gå/jogg sakte 100m - fart ca 45	10	
Søndag	23.05.2010	rolig langtur	15	lett oppvarming 6-8x120m - jogg rolig tilbake	8	
			75			

## Training May 2010

Dag	Dato	1 økt	km	2 økt	km
Mandag	24.05.2010	lavterskel 5x6 mins	10	rolig langtur	8
Tirsdag	25.05.2010	rolig langtur	8	rolig langtur	8
Onsdag	26.05.2010	rolig langtur	10	Nijmegen 1500m 3.41	10
Torsdag	27.05.2010	lavterskel 5x6 mins	10	lavterskel 5x6 mins	10
Fredag	28.05.2010	rolig langtur	10	rolig langtur	10
Lørdag	29.05.2010	Bane 5x300m - gå 100m, jogg 400m, 5x200m jogg 200m, jogg 400m, 5x150m jogg 150m, jogg 400m, 5x120m jogg 120m		Rolig langtur inkl 8x80m bakkesprint	10
Søndag	30.05.2010	rolig langtur	10	rolig langtur	10

47

## 800m, 1500m & 3000m 2010 (selection of races)

1.50,84	21 august	800m NM Sandnes	3 plass
3.38,61	14 August	1500m Leuven, Belgium	1 place
3.40,14	4 June	1500m Bislett Games	7 place
3.40,25	10 August	1500m Gothenburg	3 place
3.42,06	26 May	1500m Nijmegen	3 place
3.42,62	28 July	1500m Barcelona European Champs	6 place h2
3.45,31	20 July	1500m Moncton World Junior-U20	6 place h2
3.45,64	7 August	1500m NM-U20 Ravnanger/Askøy	1 place
3.46,50	22 August	1500m Norwegian Champs Sandnes	1 place
3.47,40	19 June	1500m European Team Challenge Bergen	6 place
<b>7.58,15</b>	<b>19 May</b>	<b>3000m Bislett</b>	<b>1 place</b>

48

## Training before European Champs



49



50

## July 2010

Dag	Dato	1 økt	km	2 økt	km
Mandag	19.07.2010	rolig langtur	6	rolig langtur	6
Tirsdag	20.07.2010	1500m forsøk VM	10	rolig langtur	10
Onsdag	21.07.2010	lavterskel 5x6 mins	10	Bakkeløp 10x100m	10
Torsdag	22.07.2010	Rolig langtur	10	Rolig langtur	10
Fredag	23.07.2010	2x10x200m (pause 30 seks - 5-7 økt)	10	avreise fra Canada	0
Lørdag	24.07.2010	6x300m (100m jogg) ca 43	10	rolig langtur	10
Søndag	25.07.2010	rolig langtur	10	rolig langtur + 3x120m st.løp med piggsko	8

51

## July-August 2010

Dag	Dato	1 økt	km	2 økt	km	Total uke
Mandag	26.07.2010	rolig langtur	6	rolig langtur	6	96
Tirsdag	27.07.2010	1500m forsøk EM	10	rolig langtur	10	
Onsdag	28.07.2010	rolig langtur	8	1500m semifinalen EM	6	
Torsdag	29.07.2010	Rolig jogg 15 mins	4		10	
Fredag	30.07.2010	rolig langtur	10	2x10x200m (30 seks) 5 mins seriepause L=5-7	10	
Lørdag	31.07.2010	Fri pga flyreise	0	fly forsinket - ingen trening	0	
		bane 5x300m - gå 100m, jogg 400m, 5x200m jogg				
Søndag	01.08.2010	200m, jogg 400m, 5x150m	12	Rolig langtur	10	
			44			52

52

# August 2010

Dag	Dato	1 økt	km	2 økt	km	Total uke
Mandag	02.08.2010	rolig langtur	10	rolilig langtur	10	
Tirsdag	03.08.2010	lavterskel 5x6 mins	10	bane 10x120m konk fart 800m - sakte jogg tilbake	10	
Onsdag	04.08.2010	rolig langtur	15	2x8x200m (30 seks, 5 mins seriepause) - fart ca 29-30	10	
Torsdag	05.08.2010	rolig langtur	10	rolilig langtur	10	
Fredag	06.08.2010	1500m forsøk Junior NM	10	800m forsøk Junior NM Askøy	10	
Lørdag	07.08.2010	Rolig jogg 15 mins	3	1500m finale Junior NM Askøy	8	
Søndag	08.08.2010	Rolig jogg 15 mins	3	800m finale Junior NM Askøy	10	
			51			

53

Dag	Dato	1 økt	km	2 økt	km	Total uke
Mandag	09.08.2010	rolig langtur	6	rolilig langtur	6	
Tirsdag	10.08.2010	Rolig jogg 15 mins	3	1500m Folksam Grand Prix - Göteborg	10	
Onsdag	11.08.2010	lavterskel 5x6 mins	10	bane 6x300m - gå 100m - øk på siste dragene. Relativ lett økt.	10	
Torsdag	12.08.2010	lavterskel 5x6 mins	10	rolilig langtur	10	
Fredag	13.08.2010	rolig langtur	6	rolilig langtur	6	
Lørdag	14.08.2010	Rolig jogg 15 mins	3	1500m Leuven - Belgia 3.38,61!	10	
Søndag	15.08.2010	rolig langtur	18			
			50			

Dag	Dato	1 økt	km	2 økt	km	Total uke
Mandag	16.08.2010	rolig langtur	6	rolilig langtur	6	
Tirsdag	17.08.2010	terskeltest UIS	10	rolilig langtur	10	
Onsdag	18.08.2010	rolig langtur	8		6	
Torsdag	19.08.2010	rolig langtur	6	rolilig langtur	6	
Fredag	20.08.2010	800m Forsøk NM Sandnes	10	Rolig jogg 20 mins	5	
Lørdag	21.08.2010	1500m Forsøk NM Sandnes	8	Finale 800m NM Sandnes		
Søndag	22.08.2010	Rolig jogg 15 mins	3	Finale 1500m NM Sandnes	12	
			45			

54

# The season is over!



# Bjørnar Ustad Kristensen

## Steeplechase



## Support

- Bjørn Steinar Nedrebø – MD
- Leif Kristensen – Physiotherapist (father)
- Yngve Sundsfjord - Physio
- Leif Inge Tjelta/Asle Tjelta – Physiological tests – University of Stavanger
- Norwegian Athletics Federation – Physios/Medical team

57

## The first years!

- Not a child wonder
  - Some good times as a young athlete
- Did not train a lot as a youngster
  - Natural talent
- Generally physically active
  - Athletics
  - Football
- Ran steeplechase at an early age
  - Found that he liked the event



58

## Training volumes

- 1998-1999: 3 sessions/week + 2 sessions – mountain bike
- 1999-2000: 4-5 sessions/week (mononucleose)
- 2000-2001: 4-5 sessions/week
- 2001-2002: 60-80 km/week (military service)
- 2003-2004: 110-120 km/week
- 2004-2005: 110-140 km/week
- 2005-2006: 120-160 km/week (average >100 km/week/yr)
- 2006-2007: 120-160 km/week
- 2007-2008: 140-180 km/week
- 2009-2010: 120-150 km/week

59

## 2002 Season

- Norwegian Champs Sandnes 3000mH - Silver
- Norwegian Junior Champs Lillehammer
  - 5000m – Gold
  - 3000mH – Gold
- Olympiatoppen – Project
  - ”Young athletes”
    - Andreas Thorkildsen also in the project

60

## 2006

- 8.23,65 Heusden 22 July
  - Breakthrough in steeplechase
- European Champs Gothenburg – main aim
  - Injured before champs

61

## 2007

- 8.16,75 – Heusden
  - Big breakthrough
  - World championships Osaka the main goal
  - Injured just before Norwegian Champs in Askim, World Champs was not a success
    - Bjørnar took a long time to get into training again

62

## 2008

- Did not achieve Olympic qualifying time due to an undiagnosed stress fracture
  - Trained in St. Moritz with significant pain
  - DNF 3000m Golden League Rome
    - Pain, lack of competition
  - Norwegian senior champion 5000m with stress fracture
    - Stress fracture finally diagnosed
    - End of season

63

## 2009

- World Championships – Berlin
  - Week winter basis due to recovery from injury and lack of motivation after Olympic year before Christmas 2008
  - The season must nevertheless be counted as a success
    - 5 place in heat 3 8.28,49 (seasonal best)
      - Did not qualify for final

64

## Development - Bjørnar

År	Alder	1500m	2000mH	3000mH	30000m	5000m	10000m
1999	17	4.06,91			8.36		
2000	18	4.02,16		9.35,51	8.52,26	15.15,40	
2001	19	3.58,07	5.58,07	9.02,53	8.28,76	14.56,31	
2002	20	3.56,16	5.49,08	8.46,60	8.26,95	14.47,67	
2003	21	4.00,75	5.43,09	8.40,45	8.19,07	14.16,08	
2004	22	3.54,07	5.38,10	8.41,25	8.25,35	14.28,26	30.28,97
2005	23	3.57,44	5.45,39	8.38,97	8.16,21	14.03,77	29.32,69
2006	24	3.50,63		8.23,65	8.23,10	14.21,85	30.35,02
2007	25			8.16,75	8.09,32	14.18,05	29.15,07
2008	26	3.56,08		8.26,58	8.10,31	14.13,03	
2009	27			8.28,49	7.57,60		
2010	28	3.54,18		8.24,51	8.07,47	14.00,19	
2011	29						65

## 5000m Egersund 21.6.03



Bjørnar with personal best 14.16,80 Rogaland regional championships, Egersund – age 21

## Norwegian Championships Bislett 29.7.2006 Gold



## Physiological testing



- Regular threshold tests throughout all seasons
  - Check pre-season form
  - Monitor effect of altitude training

68

# Physiological testing

**TEST RAPPORT**  
Idrettens Kompetansesenter i Rogaland

TESTNR	TEST	NR	TESTEN	TESTEREN	TESTDAG	TESTTID
101	1000m	1	1000m	Leif Inge Tjelta	2011-11-28	1:15.00
102	1500m	1	1500m	Leif Inge Tjelta	2011-11-28	1:55.00
103	2000m	1	2000m	Leif Inge Tjelta	2011-11-28	2:35.00
104	3000m	1	3000m	Leif Inge Tjelta	2011-11-28	3:25.00
105	4000m	1	4000m	Leif Inge Tjelta	2011-11-28	4:15.00
106	5000m	1	5000m	Leif Inge Tjelta	2011-11-28	5:05.00
107	6000m	1	6000m	Leif Inge Tjelta	2011-11-28	5:55.00
108	8000m	1	8000m	Leif Inge Tjelta	2011-11-28	7:45.00
109	10000m	1	10000m	Leif Inge Tjelta	2011-11-28	10:35.00
110	15000m	1	15000m	Leif Inge Tjelta	2011-11-28	15:25.00
111	20000m	1	20000m	Leif Inge Tjelta	2011-11-28	20:15.00
112	30000m	1	30000m	Leif Inge Tjelta	2011-11-28	29:05.00
113	40000m	1	40000m	Leif Inge Tjelta	2011-11-28	37:55.00
114	50000m	1	50000m	Leif Inge Tjelta	2011-11-28	46:45.00
115	60000m	1	60000m	Leif Inge Tjelta	2011-11-28	55:35.00
116	80000m	1	80000m	Leif Inge Tjelta	2011-11-28	1:13:25.00
117	100000m	1	100000m	Leif Inge Tjelta	2011-11-28	1:21:15.00

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 1:15.00

TESTNR: 101

TEST: 1000m

NR: 1

TESTEN: 1000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 1:15.00

TESTNR: 102

TEST: 1500m

NR: 1

TESTEN: 1500m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 1:55.00

TESTNR: 103

TEST: 2000m

NR: 1

TESTEN: 2000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 2:35.00

TESTNR: 104

TEST: 3000m

NR: 1

TESTEN: 3000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 3:25.00

TESTNR: 105

TEST: 4000m

NR: 1

TESTEN: 4000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 4:15.00

TESTNR: 106

TEST: 5000m

NR: 1

TESTEN: 5000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 5:05.00

TESTNR: 107

TEST: 6000m

NR: 1

TESTEN: 6000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 5:55.00

TESTNR: 108

TEST: 8000m

NR: 1

TESTEN: 8000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 7:45.00

TESTNR: 109

TEST: 10000m

NR: 1

TESTEN: 10000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 10:35.00

TESTNR: 110

TEST: 15000m

NR: 1

TESTEN: 15000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 15:25.00

TESTNR: 111

TEST: 20000m

NR: 1

TESTEN: 20000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 20:15.00

TESTNR: 112

TEST: 30000m

NR: 1

TESTEN: 30000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 29:05.00

TESTNR: 113

TEST: 40000m

NR: 1

TESTEN: 40000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 37:55.00

TESTNR: 114

TEST: 50000m

NR: 1

TESTEN: 50000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 46:45.00

TESTNR: 115

TEST: 60000m

NR: 1

TESTEN: 60000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 55:35.00

TESTNR: 116

TEST: 80000m

NR: 1

TESTEN: 80000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 1:13:25.00

TESTNR: 117

TEST: 100000m

NR: 1

TESTEN: 100000m

TESTEREN: Leif Inge Tjelta

TESTDAG: 2011-11-28

TESTTID: 1:21:15.00

- Threshold tests carried out at the University of Stavanger
  - Leif Inge Tjelta
  - Asle Tjelta
- Part of a systematic evaluation of Norwegian endurance athletes

# Treningssoner - Olympiatoppen

Threshold intervals – basis training

Treningszone /treningsform	Laktat (mmol/l) LT-1710	av maksimal hjertefrekvens	Effekt
1: Rolig langtur	0.7-1.7	60-72.5%	økonomisering
2: Langtur	1.7-2.6	72.5-82.5%	økonomisering
3: Maraton fart: hurtig langkjøring eller lange intervaller / fartslek	2.6-3.6	82.5-87.5%	ATminus- AT
4: ½ maraton fart og litt raskere: hurtig langkjøring eller lange intervaller / fartslek	3.6-5.8	87.5-92.5%	AT- ATpluss
5: 10000m-3000m fart: korte og lange intervaller / fartslek / bakkeløp	5.8-8.7		2 maks
6: 1500m-800m fart: 30-120 sekunds intervaller i konkurranse fart	over 10		Anaerob utholdhetstrening
7: 400m-200m fart: 15-45 sekund opp mot maksimal innsats	over 10		Anaerob utholdhetstrening
8: alactacid	Sprint		hurtighet

“5-7” sessions – only in the summer – less than Henrik

## Injury Prevention

- Ice baths
- Hot water baths
- Physical therapy – massage
- Focus on correct training intensity – avoid stiff and sore calves and thighs
- Basic strength and stability training
  - Especially body core

71

## Altitude training

- Bjørnar has based most of his training on extensive use of altitude training
  - Typically with periods of 3 weeks at around 2000m
    - Before Christmas – South Africa - Dullstroom
    - January-Feb - South Africa – Dullstroom
    - May-June – South Africa or Flagstaff, Arizona
    - June-July – St.Moritz

72

## Altitude Training – Where?

- Dullstroom South Africa 2000 m
  - Excellent in winter – summer in South Africa
  - Easy to travel – only one hour time zone difference – cheap to live
- St. Moritz 1856 m
  - Excellent in summer – but best at end of june due to possibility of snow
- Flaggstaff 2100 m
  - Best in May-June
  - Big time zone difference, you must have a car
  - Not optimal if the athlete is competing shortly after return

73

## Altitude Training – how?

- Train as at sea level
  - Slow/steady runs (especially the first 2 days)
  - Threshold training
    - 12x1000m (1 min) L= 2,5-3,5
    - 25x1min (30 secs) L=2,5-3,5
  - Strong focus on correct lactate levels
    - i.e. training at the correct intensity

74

## Barrier training

- Bjørnar has not paid a lot of attention to specific barrier technique
  - This is contrary to all classical steeplechase theory
    - Our view was that Bjørnar's technique was not the "bottleneck" but rather his 3000m/5000m and also 1500m flat times
    - Bjørnar is a good water jumper and also has good clearance of the barriers
  - Hurdles are used in pre and mid season to maintain good technique
  - Use low key competition early in season

75

## Barrier training (hurdles)

- Pre season and mid summer
  - Typical session before important competitions
    - 3x1000m fast
    - Recovery period
    - 5x300m with 5 hurdles at competition pace (66sec/lap)

76

## Winter Training – Bjørnar 2002-2010

- 2002 – 7-9 sessions/week
  - Long intervals 10x1000m (2mins pause)
- 2004 – 10-14 sessions/week
  - Long intervals 12x1000m (1 min rest)

77

## Training January 2002 approx 90-110 km/week

Bjørnar – 2 sessions in addition, 20-25 mins slow in morning – Wednesday and Saturday

mandag	Rolig løping 45-60 mins	Rolig løping 45-60 mins	Rolig løping 45-50 mins
<b>tirsdag</b>	oppvarming + hjelpeøvelser  Bakkeløp 3x6-8x200m rask jogg ned 5 min mellom serier	oppvarming + hjelpeøvelser  Bakkeløp 2x3-4x800m rask jogg ned 5 min mellom serier	oppvarming + hjelpeøvelser kondisjonsintervall  2x400m 30 seks 1x600m 30 seks (+1) 1x200m 30 seks 2x150m 30 seks
onsdag	rolig langtur 40-50 mins	rolig langtur 40-50 mins	rolig langtur 40-50 mins
<b>torsdag</b>	oppvarming + hjelpeøvelser kondisjonsintervall  3x150m 30 seks 4x800m 60 seks (+1) 2x150m 30 seks 10 mins pause 2x 400m 60 seks	oppvarming + hjelpeøvelser kondisjonsintervall  4x150m 30 seks 4x800m 60 seks (+1) 2x150m 30 seks 10 mins pause 1x1200m seks relativt rolig første 600m	oppvarming + hjelpeøvelser kondisjonsintervall  4x150m 30 seks 3x800m 60 seks (+1) 2x150m 30 seks 1x600m
fredag	rolig langtur 30-50 mins	rolig langtur 30-50 mins	<b>fri</b> <b>evt alternativ trening</b> <b>- svømming/sykling</b> <b>ballspill osv</b>
lørdag	Intervall 2x12x200m (30 seks) 5 mins seriepause	Intervall 2x12x200m (30 seks) 5 mins seriepause	Hurtig langtur 30 mins
søndag	rolig langtur 55 mins	rolig langtur 60 mins	rolig langtur 50 mins

78

## Training October 2004 110-130 km/week

Dag	Uke 3 12-18 januar 2004	Uke 4 19-25 januar 2004	Uke 5 - 8-uke 26 januar - 8 februar 2004
mandag	1. Rolig løping 30 mins sone 1 2. Rolig løping 60 mins sone 1	1. Rolig løping 30 mins sone 1 2. Rolig løping 60 mins sone 1	1. Rolig løping 30 mins sone 1 2. Rolig løping 60 mins sone 1
tirsdag	1. Rolig løping 30 mins sone 1 2. Intervall 10x1000m pause 2 mins + 6x120m fort-flyt-fort	1. Rolig løping 30 mins sone 1 2. Intervall 12x1000m pause 2 mins + 6x120m fort-flyt-fort	1. Rolig løping 30 mins sone 1 2. Intervall 8x1000m pause 2 mins + 6x120m fort-flyt-fort
onsdag	1. Rolig løping 30 mins sone 1 2. Rolig løping 45 mins sone 1	1. Rolig løping 30 mins sone 1 2. Rolig løping 55 mins sone 1	1. Rolig løping 30 mins sone 1 2. Rolig løping 40 mins sone 1
torsdag	Oppvarming 15-20 mins + hjelpeøvelser Intervall 2x20x200m pause 30 seks	Oppvarming 15-20 mins + hjelpeøvelser Intervall 2x25x200m pause 30 seks	Oppvarming 15-20 mins + hjelpeøvelser Intervall 2x15x200m pause 30 seks
fredag	fri	fri	fri
lørdag	1. Rolig løping 45 mins sone 1 2. Fartslek 50 mins, drag fra 30-60 seks	1. Rolig løping 45 mins sone 1 2. Fartslek 50 mins, drag fra 30-60 seks	1. Rolig løping 45 mins sone 1 2. Fartslek 50 mins, drag fra 30-60 seks
søndag	1. Rolig løping 70 mins sone 1 2. Rolig løping 45 mins sone 1	1. Rolig løping 70 mins sone 1 2. Rolig løping 45 mins sone 1	1. Rolig løping 70 mins sone 1 2. Rolig løping 45 mins sone 1

## Training October 2005 130-150 km/week

Uke	Dag	Dato	Trening	Km
42	mandag	17.10.05	Rolig løping 30 mins sone 1	8,0
			Rolig løping 60 mins sone 1 vekt trening - spenst/styrke	15,0
	tirsdag	18.10.05	Rolig løping 30 mins	8,0
			<b>AT-trening, langintervall 6-8x1000m pause 1 min</b>	16,0
	onsdag	19.10.05	Rolig løping 30 mins	8,0
			Rolig løping 60 mins sone 1	15,0
	torsdag	20.10.05	Rolig løping 30 mins	8,0
			<b>24x400m (30 seks) sone 3</b>	16,0
	fredag	21.10.05	Rolig langtur 40 mins	12,0
	lørdag	22.10.05	Rolig løping 30 mins sone 1	8,0
<b>Lett fartslek 50 mins</b>			14,0	
søndag	23.10.05	Rolig langtur 75 mins - kupert terreng, sakte i bakkene	25,0	
			<b>153,0</b>	

## Training January 2006 130-150 km/week

Uke	Dag	Dato	Trening	Km
	mandag	2.1.06	Rolig løping 10 km Rolig løping 8-10 km inklusiv 8-12x80m bakke 70-80% innsats	10,0 10,0
	tirsdag	3.1.06	Rolig løping 10 km <b>AT-trening, langintervall 12x1000m pause 1 min</b>	10,0 16,0
	onsdag	4.1.06	Rolig løping 8-10 km + sykkel 1 time Rolig løping 8-10 km inklusiv 8-12x80m bakke 70-80% innsats	10,0 10,0
	torsdag	5.1.06	Rolig løping 8-10 km <b>20-24x400m (30 seks)</b>	10,0 16,0
	fredag	6.1.06	<b>Sykkel 1time</b> Rolig løping 8-10 km	0,0 10,0
	lørdag	7.1.06	Rolig løping 10 km <b>Lett fartslek 50 mins</b>	10,0 14,0
	søndag	8.1.06	Rolig langtur 20 km - kupert terreng	20,0 <b>146,0</b>

81

## St Moritz July 2007

Uke 29 16-22 Juli 172km rekord				
Uke	Dag	Dato	Trening	Km
	Mandag	Økt 1. Økt 2.	Rolig langtur 15km 70.07 Gj.puls 130-148 K: Jekk ok, folte meg grei. Rolig langtur 10km 44.10 Gj.puls 128-149 K: Jekk fint, folte meg grei	
	Tirsdag	Terskel 127*1000m to Marus' 940m Oppvarming: 15.20 Nerjogg: 15.01 2.57.0(147), 2.52.6(152), 2.50.1(156) Laktat 2.9, 2.48.6(159), 2.47.5(158), 2.48.9(159), 2.49.0(159) Laktat 2.8, laktat 2.47.4(159), 2.44.4(162), 2.46.1(161), 2.43.7(163) Laktat 3.6, 2.47.6(157) K: Jekk bra, ca 5sek bere snitt enn i dag, jippe! Rolig langtur 21km 90.21 Gj.puls 132 K: Jekk fint, sprang siste 30min i 3.40 fart. Foltes grei.	Rolig langtur 12km 50.44 Gj.puls 127-152 + <b>Styrke</b> 30.2010 øvelsa *3 Magesrygg seriepause 2min K: Jekk fint, se tross for uoff økt tidligere. Styrke jekk bra.	
	Onsdag	Terskel 4*10min Pause Laktatmåling Oppvarming: 15.25 Nerjogg: 25.02 Drag 1, 151/2.2. Drag 2, 157/ Målte hje. Drag 3, 160/3.1. Drag 4, 165/2.4 K: Jekk tongt. Va gaanske tong å trøtt i beini i dag, pigge på 120m 3*120m 16.3,15.9,15.6, 15.3 P=3min	Kun ei økt. Rolig langtur 10km 42.44 Gj.puls 138-154 + <b>Styrke</b> 30.2010 øvelsa *3 Magesrygg seriepause 2min K: Jekk tongt på denne turen og. Høg puls. Styrke jekk bra.	
	Torsdag	Rolig langtur 13km 63.35 Gj.puls 116-131 K: Eg tog det veldig me ro ite å ha våre tong i går, bå det hjelpe foran morgendagens økt.	Rolig langtur 10km 46.34 Gj.puls 123-146 K: Tog det ekstra me ro på denne turen og.	
	Fredag	Bane 3*1000m 3.10min pause 13SP 5*300m 100sek pause Oppvarming: 16.35 Terskel 3.16 Nerjogg: 20.01 1000m tider: 2.41.3 Laktat 6.6, 2.40.9 Laktat 9.1, 2.41.5 Laktat 12.2 300m-tider: 46.4, 45.5, 44.7, 44.1, 44.3 K: Jekk kanon, dsek bere i snitt enn i fjor. Måtte jobba på siste, 300m jekk lettare og lettare. God økt!	Rolig langtur 11km 50.05Gj.puls 124-143 K: Jekk ok, litt trøtt ite dagens 1 økt. Sprang me Peter Desment	
	Lørdag	Rolig langtur 21km 95.06 Gj.puls 130-149 K: Jekk ok, sprang me musse litt resten akeina! Va fn, ikkje trøtt for siste 10min.	Kun ei økt.	
	Søndag			

- Training before 8.16,75 race in Heusden 28/7  
– Large volumes (for Bjørnar)

82

## Altitude training March 2010

Dag	Dato	1 økt	km	2 økt	km	Total uke
Mandag	22.03.2010	30x45/15 seks interval L=2.7 etter 15 og L=2.4 etter 30	10	4x10 min terskel	16	157
Tirsdag	23.03.2010	rolig langtur	10	rolig langtur	10	
Onsdag	24.03.2010	rolig langtur	10	2x10x300m L=4-5 pause 60 seks + 5min	10	
Torsdag	25.03.2010	rolig langtur	10	Rolig langtur	10	
Fredag	26.03.2010	Terskel 5x6mins (2 mins)	15	terskel 12x1000m	18	
Lørdag	27.03.2010	rolig langtur	10	Bane 5x400m (90 seks L=4.5) 7x300m (70 seks hvile L=5) 10x200m (pause 60 seks L=7)	10	
Søndag	28.03.2010	rolig langtur	18	Fri	0	
			<b>83</b>		<b>74</b>	

83

## May 2010

4 place 8.07,47

Dag	Dato	1 økt	km	2 økt	km	Total uke	
Mandag	10.05.2010	rolig langtur	10	Rolig langtur		156	
Tirsdag	11.05.2010	rolig langtur	10	rolig langtur			
Onsdag	12.05.2010	rolig langtur	10	Intervall 600 (40 seks) 400 (30 seks) 300 (30 seks) 200 (10 seks) 200m	14		
Torsdag	13.05.2010	rolig langtur	10	rolig langtur	10		
Fredag	14.05.2010	rolig langtur	10	30x45/15 seks	15		
Lørdag	15.05.2010	rolig langtur	10	rolig langtur	10		
Søndag	16.05.2010	Rolig langtur	10	terskel 6x6min (1 min)	15		
			<b>70</b>		<b>86</b>		
Dag	Dato	1 økt	km	2 økt	km		Total uke
Mandag	17.05.2010	rolig langtur	10	Rolig langtur	10		146
Tirsdag	18.05.2010	rolig langtur	10	Rolig langtur	10		
Onsdag	19.05.2010	jogg 15 min	3	3000m Bislett	15		
Torsdag	20.05.2010	rolig langtur	10	rolig langtur	10		
Fredag	21.05.2010	rolig langtur	10	rolig langtur	10		
Lørdag	22.05.2010	rolig jogg	3	terskel 6x6min (1 min)	15		
Søndag	23.05.2010	Rolig langtur	15		15		
			<b>61</b>		<b>85</b>		

84

## 2010 Sesong

- Europa Championships Barcelona – 9 place final
- Norwegian Championships- Sandnes
- Winter training went well, some breaks due to illness (not serious)
- Achilles injury in June
  - Resulted in a poor race in ETC Bergen
  - A number of other competitions were cancelled
- Hit form top after European Champs – improving all the time at the end of the season

85

## 2010

10.4 Norwegian X-Country Champs Tønsberg – 3 place  
 25.4 Siddisløp (8km) – 1 place  
**5.6 3000mH – Belgia – DNS due to achilles injury**  
**14.6 3000mH – Josef Odlozil – DNS due to achilles injury**  
 23.6 – 8.7 altitude – St Moritz

86

## Steeplechase 2010

- 8.24,51 Brussel 27.8 – 6 place
- 8.27,89 Barcelona 1.8 – European Champs – 9th final
- 8.28,52 Biberach 9.7 – 1 place
- 8.29,15 Gothenburg 10.8 – 3 place
- 8.30,91 Barcelona 30.7 – EM Round 1 5place h1
- 8.42,17 Norwegian Championships 21.8 – 1 place
- 8.44,55 ETC Bergen 20.6 – 9 place

87

## Men, 3000 m steeplechase - Final

- 1) Mahiedine Mekhissi-Benabbad, Frankrike 8.27,32,
- 2) Ion Luchianov, Moldova 8.29,49,
- 3) Tomasz Szymkowiak, Polen 8.30,02,
- 4) Bouabdellah Tahri, Frankrike 8.30,11, 5) Ildar Minsjin, Russland 8.30,14,
- 6) Alberto Paulo, Portugal 8.30,26,
- 7) José Luis Blanco, Spania 8.30,53,
- 8) Steffen Uliczka, Tyskland 8.30,61,
- 9) Bjørnar Ustad Kristensen, Norge 8.30,91,**
- 10) Bostjan Buc, Slovenia 8.31,08,
- 11) Eliseo Martin, Spania 8.31,71,
- 12) Andrej Farnosov, Russland 8.31,88.

88

## European Championships Barcelona 29 July - qualifier



## Norwegian Champion 5000m Sandnes



90

## Norwegian Champion 3000mH Sandnes



91

## 2011-2012

- 2011
  - World Championships, Daegu Korea
- 2012
  - European Championships Helsinki - 27 June and 1 July
  - Olympic Games London - 27 July to 12 August 2012

92

