

TRAINING TARGETS AND GUIDELINES FOR DEVELOPING HIGH PERFORMANCE ATHLETES AND COACHES

The following document is designed for ATHLETE and COACHES with the goals of achieving elite performance levels. By providing targets that demonstrate the requirements needed to win a gold medal at the Olympic games, while showing the pathway to achieve these goals, we hope to support individuals as they progress along the high performance development pathway. It is understood that this pathway will take many years, however it is important to recognize that athletes must continue to progress along this pathway.

In this document you will find the following information.

1. RCA's Gold Medal Standards – GMS
 - 1x and 2- on water GMS
 - 2000m and 6000m GMS (1000M GMS for PARA athletes)
2. RADAR ERG Targets based on AGE
3. Training Volumes
4. On water training speeds for 1x's and 2-'s
5. Sample periodization for developing athletes
 - U19 Athletes
 - U23 Athletes



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RCA's Gold Medal Standards (GMS) For Boat and ergometer

	Men	Women	Light Women	Light Men
2000m 1x	6:32.0	7:10.0	7:15.0	6:38.0
2000m 2-	6:11.0	6:51.0		6:18.0
2000m ERG	5:48.0	6:43.0	7:02.0	6:10.0
6000m ERG	18:36.0	21:20.0	22:18.0	19:36.0

	LTA Men	LTA Women	AS Men	AS Women	TA Men	TA Women
1000m 1x			4:35.0	5:15.0	03:50.0	04:30.0
1000m 2-	3:15.0	3:35.0				
1000m ERG	3:07.0	3:40.0	4:20.0	5:00.0	03:40.0	04:20.0

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RADAR ERG Targets based on AGE

The purpose of the following charts is to show the progression required, over time, to achieve RCA Gold Medal Erg Standards. Completing the full battery of RADAR assessment can provide further information regarding athletes strengths and weaknesses. This information is helpful in designing effective training program.

Sample:

		AGE	15	16	17	18	19	20	21	22	23	24+
2000 METERS	Excellent	Time	6:29	6:21	6:14	6:08	6:02	5:57	5:54	5:50	5:47	5:45
		Split	01:37.2	01:35.3	01:33.5	01:32.0	01:30.5	01:29.3	01:28.4	01:27.6	01:26.7	01:26.1
		Watts	381	404	429	450	473	491	506	521	537	548
	Very Good	Time	6:33	6:25	6:18	6:12	6:06	6:01	5:57	5:54	5:50	5:48
		Split	01:38.2	01:36.3	01:34.4	01:32.9	01:31.4	01:30.2	01:29.3	01:28.5	01:27.6	01:27.0
		Watts	370	392	416	437	459	477	491	506	521	532
	OK	Time	6:44	6:36	6:28	6:22	6:16	6:11	6:07	6:04	6:00	5:58
		Split	01:40.9	01:39.0	01:37.1	01:35.5	01:34.0	01:32.8	01:31.9	01:31.0	01:30.1	01:29.5
		Watts	341	361	383	402	422	439	452	465	479	489
	Needs Improvement	Time	6:55	6:47	6:39	6:33	6:27	6:22	6:18	6:14	6:10	6:08
		Split	01:43.8	01:41.8	01:39.8	01:38.2	01:36.6	01:35.4	01:34.4	01:33.5	01:32.6	01:32.0
		Watts	320	332	352	370	388	404	416	428	441	450

Athlete progression over time

RCA Gold Medal Standard

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Canadian Paralympic Committee/ Comité paralympique canadien

HP Ergometer Progression Table

MEN



PEAK POWER	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Split	01:15.8	01:14.3	01:12.9	01:11.7	01:10.6	01:09.7	01:09.0	01:08.3	01:07.6	01:07.2
		Watts	804	852	904	949	996	1036	1067	1099	1132	1155
	Very Good	Split	01:16.6	01:15.1	01:13.6	01:12.5	01:11.3	01:10.4	01:09.7	01:09.0	01:08.3	01:07.9
		Watts	780	827	877	921	967	1005	1035	1066	1098	1120
	OK	Split	01:18.7	01:17.2	01:15.7	01:14.5	01:13.3	01:12.3	01:11.6	01:10.9	01:10.2	01:09.8
		Watts	718	761	807	847	889	925	953	981	1011	1031
	Needs improvement	Split	01:20.9	01:19.4	01:17.9	01:16.6	01:15.4	01:14.4	01:13.7	01:12.9	01:12.2	01:11.7
		Watts	660	700	742	779	818	851	876	903	930	948

1 MINUTE	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Meters	348.6	355.4	362.4	368.3	374.4	379.3	383.0	386.8	390.7	393.3
		Split	01:26.1	01:24.4	01:22.8	01:21.4	01:20.1	01:19.1	01:18.3	01:17.6	01:16.8	01:16.3
		Watts	549	582	617	648	680	708	729	751	773	789
	Very Good	Meters	345.1	351.9	358.8	364.6	370.6	375.5	379.2	383.0	386.8	389.3
		Split	01:26.9	01:25.3	01:23.6	01:22.3	01:20.9	01:19.9	01:19.1	01:18.3	01:17.6	01:17.1
		Watts	533	565	599	629	660	687	707	729	750	765
	OK	Meters	335.6	342.2	348.9	354.6	360.5	365.2	368.8	372.5	376.2	378.6
		Split	01:29.4	01:27.7	01:26.0	01:24.6	01:23.2	01:22.1	01:21.3	01:20.5	01:19.8	01:19.2
		Watts	490	520	551	579	607	632	651	670	690	704
	Needs Improvement	Meters	326.4	332.8	339.4	344.9	350.6	355.2	358.7	362.3	365.8	368.3
		Split	01:31.9	01:30.1	01:28.4	01:27.0	01:25.6	01:24.5	01:23.6	01:22.8	01:22.0	01:21.5
		Watts	451	478	507	532	559	581	599	617	635	648

2000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	6:29	6:21	6:14	6:08	6:02	5:57	5:54	5:50	5:47	5:45
		Split	01:37.2	01:35.3	01:33.5	01:32.0	01:30.5	01:29.3	01:28.4	01:27.6	01:26.7	01:26.1
		Watts	381	404	429	450	473	491	506	521	537	548
	Very Good	Time	6:33	6:25	6:18	6:12	6:06	6:01	5:57	5:54	5:50	5:48
		Split	01:38.2	01:36.3	01:34.4	01:32.9	01:31.4	01:30.2	01:29.3	01:28.5	01:27.6	01:27.0
		Watts	370	392	416	437	459	477	491	506	521	532
	OK	Time	6:44	6:36	6:28	6:22	6:16	6:11	6:07	6:04	6:00	5:58
		Split	01:40.9	01:39.0	01:37.1	01:35.5	01:34.0	01:32.8	01:31.9	01:31.0	01:30.1	01:29.5
		Watts	341	361	383	402	422	439	452	465	479	489
	Needs Improvement	Time	6:55	6:47	6:39	6:33	6:27	6:22	6:18	6:14	6:10	6:08
		Split	01:43.8	01:41.8	01:39.8	01:38.2	01:36.6	01:35.4	01:34.4	01:33.5	01:32.6	01:32.0
		Watts	313	332	352	370	388	404	416	428	441	450

6000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	20:46	20:22	19:59	19:39	19:20	19:05	18:54	18:43	18:32	18:24
		Split	01:43.8	01:41.8	01:39.9	01:38.3	01:36.7	01:35.4	01:34.5	01:33.6	01:32.6	01:32.0
		Watts	313	332	351	369	388	403	415	428	440	449
	Very Good	Time	20:59	20:34	20:11	19:51	19:32	19:17	19:05	18:54	18:43	18:36
		Split	01:44.9	01:42.9	01:40.9	01:39.3	01:37.7	01:36.4	01:35.4	01:34.5	01:33.6	01:33.0
		Watts	304	322	341	358	376	391	403	415	427	436
	OK	Time	21:34	21:09	20:45	20:25	20:05	19:49	19:38	19:26	19:15	19:07
		Split	01:47.8	01:45.8	01:43.7	01:42.1	01:40.4	01:39.1	01:38.1	01:37.2	01:36.2	01:35.6
		Watts	279	296	314	329	346	360	371	382	393	401
	Needs Improvement	Time	22:11	21:45	21:20	20:59	20:39	20:23	20:11	19:59	19:47	19:39
		Split	01:50.9	01:48.7	01:46.7	01:44.9	01:43.2	01:41.9	01:40.9	01:39.9	01:38.9	01:38.3
		Watts	257	272	289	303	318	331	341	351	362	369

HP Ergometer Progression Table

LIGHT MEN



PEAK POWER	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Split	01:19.5	01:17.9	01:16.4	01:15.2	01:14.0	01:13.0	01:12.3	01:11.6	01:10.9	01:10.4
		Watts	698	740	785	824	865	900	927	954	983	1003
	Very Good	Split	01:20.3	01:18.7	01:17.2	01:15.9	01:14.7	01:13.8	01:13.0	01:12.3	01:11.6	01:11.1
		Watts	678	718	761	799	839	873	899	926	954	973
	OK	Split	01:22.5	01:20.9	01:19.4	01:18.1	01:16.8	01:15.8	01:15.1	01:14.4	01:13.6	01:13.1
		Watts	623	661	700	735	772	803	827	852	877	895
	Needs improvement	Split	01:24.8	01:23.2	01:21.6	01:20.3	01:19.0	01:18.0	01:17.2	01:16.5	01:15.7	01:15.2
		Watts	573	608	644	677	710	739	761	784	807	823

1 MINUTE	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Meters	338.4	345.1	351.8	357.6	363.5	368.3	371.9	375.6	379.3	381.8
		Split	01:28.6	01:26.9	01:25.3	01:23.9	01:22.5	01:21.5	01:20.7	01:19.9	01:19.1	01:18.6
		Watts	503	533	565	593	623	648	667	687	708	722
	Very Good	Meters	335.1	341.6	348.3	354.0	359.8	364.6	368.2	371.8	375.5	378.0
		Split	01:29.5	01:27.8	01:26.1	01:24.7	01:23.4	01:22.3	01:21.5	01:20.7	01:19.9	01:19.4
		Watts	488	517	548	576	604	628	647	667	687	700
	OK	Meters	325.9	332.3	338.8	344.3	350.0	354.6	358.1	361.6	365.2	367.6
		Split	01:32.1	01:30.3	01:28.6	01:27.1	01:25.7	01:24.6	01:23.8	01:23.0	01:22.1	01:21.6
		Watts	449	476	504	529	556	578	596	613	632	644
	Needs Improvement	Meters	316.9	323.1	329.5	334.9	340.4	344.9	348.3	351.7	355.2	357.5
		Split	01:34.7	01:32.8	01:31.1	01:29.6	01:28.1	01:27.0	01:26.1	01:25.3	01:24.5	01:23.9
		Watts	413	438	464	487	511	532	548	564	581	593

2000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	6:53	6:45	6:38	6:31	6:25	6:20	6:16	6:12	6:09	6:06
		Split	01:43.3	01:41.3	01:39.4	01:37.8	01:36.2	01:35.0	01:34.0	01:33.1	01:32.2	01:31.6
		Watts	317	336	357	374	393	409	421	434	447	456
	Very Good	Time	6:57	6:49	6:42	6:35	6:29	6:24	6:20	6:16	6:13	6:10
		Split	01:44.4	01:42.4	01:40.4	01:38.8	01:37.2	01:35.9	01:35.0	01:34.1	01:33.1	01:32.5
		Watts	308	326	346	363	382	397	409	421	434	442
	OK	Time	7:09	7:01	6:53	6:46	6:40	6:35	6:31	6:27	6:23	6:20
		Split	01:47.3	01:45.3	01:43.2	01:41.6	01:39.9	01:38.6	01:37.7	01:36.7	01:35.8	01:35.1
		Watts	283	300	318	334	351	365	376	387	399	407
	Needs Improvement	Time	7:21	7:13	7:05	6:58	6:51	6:46	6:42	6:38	6:34	6:31
		Split	01:50.3	01:48.2	01:46.1	01:44.4	01:42.7	01:41.4	01:40.4	01:39.4	01:38.5	01:37.8
		Watts	261	276	293	308	323	336	346	356	367	374

6000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	21:54	21:28	21:04	20:43	20:23	20:07	19:55	19:44	19:32	19:24
		Split	01:49.5	01:47.4	01:45.3	01:43.6	01:41.9	01:40.6	01:39.6	01:38.6	01:37.7	01:37.0
		Watts	267	283	300	315	331	344	354	365	376	383
	Very Good	Time	22:07	21:41	21:16	20:56	20:35	20:19	20:07	19:56	19:44	19:36
		Split	01:50.6	01:48.4	01:46.4	01:44.6	01:43.0	01:41.6	01:40.6	01:39.6	01:38.7	01:38.0
		Watts	259	275	291	306	321	334	344	354	365	372
	OK	Time	22:44	22:18	21:52	21:31	21:10	20:54	20:42	20:29	20:17	20:09
		Split	01:53.7	01:51.5	01:49.4	01:47.6	01:45.9	01:44.5	01:43.5	01:42.4	01:41.4	01:40.8
		Watts	238	253	268	281	295	307	316	326	335	342
	Needs Improvement	Time	23:23	22:56	22:29	22:08	21:46	21:29	21:17	21:04	20:52	20:43
		Split	01:56.9	01:54.6	01:52.4	01:50.6	01:48.8	01:47.4	01:46.4	01:45.3	01:44.3	01:43.6
		Watts	219	232	246	259	272	282	291	300	309	315

HP Ergometer Progression Table

WOMEN



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PEAK POWER	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Split	01:28.7	01:27.0	01:25.3	01:23.9	01:22.6	01:21.5	01:20.7	01:19.9	01:19.1	01:18.6
		Watts	502	532	564	593	622	647	667	687	707	721
	Very Good	Split	01:29.6	01:27.8	01:26.2	01:24.8	01:23.4	01:22.3	01:21.5	01:20.7	01:19.9	01:19.4
		Watts	487	517	548	575	604	628	647	666	686	700
	OK	Split	01:32.1	01:30.3	01:28.6	01:27.2	01:25.7	01:24.6	01:23.8	01:23.0	01:22.2	01:21.6
		Watts	448	475	504	529	555	578	595	613	631	644
	Needs Improvement	Split	01:34.7	01:32.9	01:31.1	01:29.6	01:28.2	01:27.0	01:26.2	01:25.3	01:24.5	01:23.9
		Watts	413	437	463	487	511	531	547	564	581	592

1 MINUTE	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Meters	308.5	314.5	320.7	326.0	331.3	335.7	339.0	342.3	345.7	348.0
		Split	01:37.2	01:35.4	01:33.5	01:32.0	01:30.6	01:29.4	01:28.5	01:27.6	01:26.8	01:26.2
		Watts	381	404	428	449	472	491	505	520	536	547
	Very Good	Meters	305.4	311.4	317.5	322.7	328.0	332.3	335.6	338.9	342.3	344.5
		Split	01:38.2	01:36.3	01:34.5	01:33.0	01:31.5	01:30.3	01:29.4	01:28.5	01:27.6	01:27.1
		Watts	369	392	415	436	458	476	490	505	520	530
	OK	Meters	297.0	302.9	308.8	313.9	319.0	323.2	326.4	329.6	332.9	335.1
		Split	01:41.0	01:39.1	01:37.2	01:35.6	01:34.0	01:32.8	01:31.9	01:31.0	01:30.1	01:29.5
		Watts	340	360	382	401	421	438	451	465	478	488
	Needs Improvement	Meters	288.9	294.5	300.3	305.2	310.3	314.3	317.4	320.6	323.8	325.9
		Split	01:43.8	01:41.9	01:39.9	01:38.3	01:36.7	01:35.4	01:34.5	01:33.6	01:32.7	01:32.1
		Watts	313	331	351	369	387	403	415	427	440	449

2000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	7:30	7:22	7:13	7:06	6:59	6:54	6:50	6:46	6:42	6:39
		Split	01:52.5	01:50.4	01:48.3	01:46.5	01:44.8	01:43.4	01:42.4	01:41.4	01:40.4	01:39.8
		Watts	246	260	276	290	304	316	326	336	346	353
	Very Good	Time	7:35	7:26	7:17	7:10	7:03	6:58	6:54	6:50	6:46	6:43
		Split	01:53.7	01:51.5	01:49.4	01:47.6	01:45.9	01:44.5	01:43.5	01:42.4	01:41.4	01:40.8
		Watts	238	253	268	281	295	307	316	326	336	342
	OK	Time	7:48	7:39	7:30	7:22	7:15	7:10	7:05	7:01	6:57	6:54
		Split	01:56.9	01:54.6	01:52.4	01:50.6	01:48.8	01:47.4	01:46.4	01:45.3	01:44.3	01:43.6
		Watts	219	232	246	259	272	282	291	300	309	315
	Needs Improvement	Time	8:01	7:51	7:42	7:35	7:28	7:22	7:17	7:13	7:09	7:06
		Split	02:00.2	01:57.9	01:55.6	01:53.7	01:51.9	01:50.5	01:49.4	01:48.3	01:47.2	01:46.5
		Watts	202	214	227	238	250	260	268	276	284	290

6000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	24:12	23:44	23:16	22:54	22:32	22:14	22:01	21:48	21:35	21:27
		Split	02:01.0	01:58.7	01:56.4	01:54.5	01:52.6	01:51.2	01:50.1	01:49.0	01:47.9	01:47.2
		Watts	198	210	222	233	245	255	262	270	278	284
	Very Good	Time	24:26	23:58	23:31	23:08	22:45	22:28	22:14	22:01	21:48	21:40
		Split	02:02.2	01:59.9	01:57.5	01:55.7	01:53.8	01:52.3	01:51.2	01:50.1	01:49.0	01:48.3
		Watts	192	203	216	226	238	247	255	262	270	276
	OK	Time	25:08	24:39	24:10	23:47	23:24	23:06	22:52	22:39	22:25	22:16
		Split	02:05.6	02:03.2	02:00.9	01:58.9	01:57.0	01:55.5	01:54.3	01:53.2	01:52.1	01:51.4
		Watts	177	187	198	208	219	227	234	241	248	253
	Needs Improvement	Time	25:50	25:20	24:51	24:27	24:04	23:45	23:31	23:17	23:03	22:54
		Split	02:09.2	02:06.7	02:04.3	02:02.3	02:00.3	01:58.7	01:57.6	01:56.4	01:55.3	01:54.5
		Watts	162	172	182	192	201	209	215	222	229	233

HP Ergometer Progression Table

LIGHT WOMEN



ROWING
CANADA
AVIRON

PEAK POWER	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Split	01:33.4	01:31.6	01:29.8	01:28.4	01:26.9	01:25.8	01:25.0	01:24.1	01:23.3	01:22.8
		Watts	430	456	484	508	533	554	571	588	606	618
	Very Good	Split	01:34.3	01:32.5	01:30.7	01:29.2	01:27.8	01:26.7	01:25.8	01:25.0	01:24.1	01:23.6
		Watts	418	443	469	493	517	538	554	571	588	600
	OK	Split	01:37.0	01:35.1	01:33.3	01:31.8	01:30.3	01:29.1	01:28.2	01:27.4	01:26.5	01:25.9
		Watts	384	407	432	453	476	495	510	525	541	552
	Needs Improvement	Split	01:39.7	01:37.8	01:35.9	01:34.3	01:32.8	01:31.6	01:30.7	01:29.8	01:29.0	01:28.4
		Watts	353	375	397	417	438	455	469	483	498	508

1 MINUTE	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Meters	296.2	302.1	308.0	313.0	318.2	322.3	325.5	328.8	332.0	334.2
		Split	01:41.3	01:39.3	01:37.4	01:35.8	01:34.3	01:33.1	01:32.2	01:31.3	01:30.4	01:29.8
		Watts	337	357	379	398	418	434	447	461	475	484
	Very Good	Meters	293.3	299.0	304.9	309.9	315.0	319.1	322.3	325.5	328.7	330.9
		Split	01:42.3	01:40.3	01:38.4	01:36.8	01:35.2	01:34.0	01:33.1	01:32.2	01:31.3	01:30.7
		Watts	327	347	368	386	405	421	434	447	461	470
	OK	Meters	285.2	290.8	296.5	301.4	306.3	310.4	313.4	316.5	319.7	321.8
		Split	01:45.2	01:43.2	01:41.2	01:39.5	01:37.9	01:36.7	01:35.7	01:34.8	01:33.8	01:33.2
		Watts	301	319	338	355	373	388	399	411	424	432
	Needs Improvement	Meters	277.4	282.9	288.4	293.1	297.9	301.9	304.9	307.9	310.9	313.0
		Split	01:48.1	01:46.1	01:44.0	01:42.3	01:40.7	01:39.4	01:38.4	01:37.4	01:36.5	01:35.9
		Watts	277	294	311	327	343	357	367	378	390	398

2000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	7:55	7:46	7:37	7:29	7:22	7:16	7:12	7:08	7:04	7:01
		Split	01:58.7	01:56.4	01:54.2	01:52.3	01:50.5	01:49.1	01:48.0	01:46.9	01:45.9	01:45.2
		Watts	209	222	235	247	259	270	278	286	295	301
	Very Good	Time	8:00	7:50	7:41	7:34	7:27	7:21	7:16	7:12	7:08	7:05
		Split	01:59.9	01:57.6	01:55.3	01:53.5	01:51.6	01:50.2	01:49.1	01:48.0	01:47.0	01:46.3
		Watts	203	215	228	240	252	262	270	278	286	292
	OK	Time	8:13	8:04	7:54	7:47	7:39	7:33	7:29	7:24	7:20	7:17
		Split	02:03.3	02:00.9	01:58.6	01:56.7	01:54.8	01:53.3	01:52.2	01:51.1	01:50.0	01:49.3
		Watts	187	198	210	221	232	241	248	256	263	268
	Needs Improvement	Time	8:27	8:17	8:08	8:00	7:52	7:46	7:41	7:37	7:32	7:29
		Split	02:06.7	02:04.3	02:01.9	01:59.9	01:58.0	01:56.5	01:55.3	01:54.2	01:53.1	01:52.3
		Watts	172	182	193	203	213	222	228	235	242	247

6000 METERS	AGE		15	16	17	18	19	20	21	22	23	24+
	Excellent	Time	25:24	24:54	24:25	24:02	23:39	23:20	23:06	22:53	22:39	22:30
		Split	02:07.0	02:04.5	02:02.1	02:00.2	01:58.2	01:56.7	01:55.5	01:54.4	01:53.3	01:52.5
		Watts	171	181	192	202	212	220	227	234	241	246
	Very Good	Time	25:39	25:09	24:40	24:16	23:53	23:34	23:20	23:07	22:53	22:44
		Split	02:08.2	02:05.8	02:03.4	02:01.4	01:59.4	01:57.9	01:56.7	01:55.6	01:54.4	01:53.7
		Watts	166	176	187	196	206	214	220	227	234	238
	OK	Time	26:22	25:52	25:22	24:57	24:33	24:14	24:00	23:46	23:32	23:23
		Split	02:11.9	02:09.3	02:06.8	02:04.8	02:02.8	02:01.2	02:00.0	01:58.8	01:57.7	01:56.9
		Watts	153	162	172	180	189	197	203	209	215	219
	Needs Improvement	Time	27:07	26:36	26:05	25:40	25:15	24:55	24:40	24:26	24:12	24:02
		Split	02:15.6	02:13.0	02:10.4	02:08.3	02:06.2	02:04.6	02:03.4	02:02.2	02:01.0	02:00.2
		Watts	141	149	158	166	174	181	186	192	198	202

Periodization

The following information is designed to provide athletes and coaches, who have aspirations of representing Canada at U23 and U19 World Rowing Championships, the information necessary to become World Champions at these events. Working towards these numbers will also support athletes ability to challenge for senior programs as they transition from U19 to U23 to the senior category. RCA recognizes that these volumes may be challenging for athletes, however it is our responsibility to educate athletes and coaches on what is required to be successful at these events.

Athletes should work closely with their coaches to develop a program that works toward these goals while fitting into their current training environment. Attempting to increase training to these numbers over a short period of time may lead to injuries.

*Many countries demonstrating success at U19 and U23 World Rowing Championships are implementing similar training volumes.

U19 PERIODIZATION

Phases	Preparation Period 1
	Preparation Period 2
	Preparation Period 3
	Pre Competition
	Competition Period
	Transition Period
Volume	5-7 on water or erg sessions / week (9-13 hours), 2-3 cross training sessions/week (4-6 hours), 2-4 S&C sessions/week (2-4 hours)= 15-23 hrs per week
	50 weeks / year

National Team Squad Training (hours / week)									
Category	NAME	OTHER NAMES	Month	Oct - Jan	Feb - Mar	April	May - July	August	Sept
			Phase	Prep 1	Prep 2	Prep 3	Pre Comp	Comp	Trans
C1	Overspeed	Anaerobic Capacity Training				1	1	1	
C2	Race Speed	Oxygen Transport Training		1	1	1 - 2	2	1 - 2	
C3	Short Endurance	Anaerobic Threshold Training		1	2	2	4	3	1
C4	Middle Endurance	Oxygen Utilisation Training		3	3	5	3	4	2
C5	Long Endurance	Basic Oxygen Utilisation Training		5	5	4	3	4	3
C6	Recovery / Long Endurance	Recovery / Fuel Utilisation Training		6	6	5	4	5	7
Regatta							1 - 3		
Strength + Conditioning				2 - 4	2 - 4	2 - 3	1 - 3	1 - 3	2
Hours per week				18- 20	19-22	20-22	19-23	19-22	15

U23 PERIODIZATION	
Phases	Preparation Period 1
	Preparation Period 2
	Preparation Period 3
	Pre Competition
	Competition Period
	Transition Period
Volume	6-10 on water or erg sessions / week (~12-15 hours), 2-4 cross training sessions / week (~6-8 hours), 2-4 S+C sessions / week (~3-5 hours) = 21-28hrs per week
	50 weeks / year

National Team Squad Training (hours / week)									
Category	NAME	OTHER NAMES	Month	Sept - Dec	Jan - Feb	Mar	Apr-May	July	August
			Phase	Prep 1	Prep 2	Prep 3	Pre Comp	Comp	Trans
C1	Overspeed	Anaerobic Capacity Training				1	1	1	
C2	Race Speed	Oxygen Transport Training		1	1	1 - 2	2	1 - 2	
C3	Short Endurance	Anaerobic Threshold Training		1	1	2	4	2	1
C4	Middle Endurance	Oxygen Utilisation Training		4	4	6	4	6	4
C5	Long Endurance	Basic Oxygen Utilisation Training		6	6	5	4	5	4
C6	Recovery / Long Endurance	Recovery / Fuel Utilisation Training		6	7	6	5	6	8
Regatta							1 - 4		
Strength + Conditioning				3 - 5	3 - 5	2 - 4	2 - 4	2 - 4	3
Hours per week				21- 23	22-24	23-26	23-28	22-26	20

TRAINING VOLUME BY AGE

The following Training Volumes have been developed to educate athletes and coaches on the volume required to perform at a High Performance level. This information should be used as a tool to guide the development of programs and gain an understanding of the volume that developing athletes should be building up to.

<i>Chronological Age</i>	16	17	18	19	20	21	22	23	24	> 25
Training Hours / week	16	16-22	17-24	18-25	19-26	20-27	21-28	21-28	22-28	25+
Aerobic Hours / Week (CAT 5 / CAT 6)	11	12-17	12-18	13-19	14-20	15-21	16-21	16-21	17-22	19+
<i>Training Age</i>	1	2	3	4	5	6	7	8	9	10

STRENGTH TARGETS BY AGE

When assessing strength targets by AGE, there are two ways to view this.

- 1) Chronological Age – This is actual age of the athletes, and can be valuable if the individual joined the sport as a Junior and is looking for strength targets from year to year.
- 2) Training Age – This reflects that athletes in our sport may start later in life with no background in strength training (ie University rower starting at 20)

The goal for all athletes should be to align the numbers established for their training age with their chronological age. It is important to recognize that this may take an untrained athlete a number of years to achieve. Untrained athletes who attempt to achieve the numbers set out in their chronological age may become injured if they attempt to achieve without progressing to these #'s over time.

(Athletes who are new to rowing but have experience in strength training may be able to bridge this gap quicker)

MEN

Chronological Age	16-18	18-20	21	22	23	24	25+
Bench Pull (kg) (1.2x BW)	61	68	80	86	98	109	119
Squat (kg) (1.7 x BW)	95.7	114	132	144	152	158	168
Deadlift (kg) (1.9x BW)	104	118	141	154	167	178	188
Plank (seconds)	224	235	247	259	272	286	300
Side Plank R (seconds)	134	141	148	155	163	171	180
Side Plank L (seconds)	134	141	148	155	163	171	180
Back Ext hold (seconds)	224	235	247	259	272	286	300
Flexor Endurance test (seconds)	188	197	207	218	229	240	252
Training Age	1	2	3	4	5	6	7

Women

Chronological Age	16-18	18-20	21	22	23	24	25+
Bench Pull (kg) (1.1x BW)	47	52	56	61	69	78	87
Squat (kg) (1.6 x BW)	72	85	98	106	112	117	126
Deadlift (kg) (1.8x BW)	86	96	105	114	123	133	142
Plank (seconds)	224	235	247	259	272	286	300
Side Plank R (seconds)	134	141	148	155	163	171	180
Side Plank L (seconds)	134	141	148	155	163	171	180
Back Ext hold (seconds)	224	235	247	259	272	286	300
Flexor Endurance test (seconds)	188	197	207	218	229	240	252
Training Age	1	2	3	4	5	6	7

Light Men

<i>Chronological Age</i>	16-18	18-20	21	22	23	24	25+
Bench Pull (kg) (1.2x BW)	53	53	61	66	73	80	88
Squat (kg) (1.7 x BW)	82.5	89	101	110	113	117	124
Deadlift (kg) (1.9x BW)	90	92	108	117	124	131	139
Plank (seconds)	224	235	247	259	272	286	300
Side Plank R (seconds)	134	141	148	155	163	171	180
Side Plank L (seconds)	134	141	148	155	163	171	180
Back Ext hold (seconds)	224	235	247	259	272	286	300
Flexor Endurance test (seconds)	188	197	207	218	229	240	252
<i>Training Age</i>	1	2	3	4	5	6	7

Light Women

<i>Chronological Age</i>	16-18	18-20	21	22	23	24	25+
Bench Pull (kg) (1.2x BW)	40	41	44	46	52	58	64
Squat (kg) (1.7 x BW)	62	67	75	81	84	87	93
Deadlift (kg) (1.9x BW)	74	75	81.2	87	99	99	104
Plank (seconds)	224	235	247	259	272	286	300
Side Plank R (seconds)	134	141	148	155	163	171	180
Side Plank L (seconds)	134	141	148	155	163	171	180
Back Ext hold (seconds)	224	235	247	259	272	286	300
Flexor Endurance test (seconds)	188	197	207	218	229	240	252
<i>Training Age</i>	1	2	3	4	5	6	7

THE SYSTEM OF TRAINING INTENSITY

INTENSITY CATEGORY	APPROX HEART RATE RANGE	DURATION ONE PEICE (MIN)	RATIO WORK:REST	GOALS OF THE TRAINING INTENSITY	PRACTICAL EXAMPLES (SR = STROKE RATE)	LACTATE LEVEL (mmol/l)
<i>I</i>	Max H.R	0.5 - 1.5	1:4 - 1:5	-ANAEROBIC CAPACITY -TRANSPORTATION=DEVELOPMENT OF CARDIOPULMINARY SYSTEM -ABILITY+FEELING AF START	-1 - 6 X 500M (WITH START) -INTERVAL TRAINING (SHORT PEICES) SERIES OF 30 - 60 STROKES OR SERIES OF 1 - 2 MIN SR: > RACE SR	>10
<i>II</i>	Max H.R	2 - 7	1:2 - 1:3	-RACE ENDURANCE -TRANSPORTATION=DEVELOPMENT OF CARDIOPULMINARY SYSTEM -RACE SPEED FEELING	-RACE OVER 1500 - 2000 M - 6 X 2 MIN - 3 X 1000 M - 5 X 750 M SR: RACE - SR	8-14
<i>III</i>	Max H.R	6 - 10	2:1 - 1:2	-DEVELOPMENT OF AEROBIC CAPACITY -STRENGHT ENDURANCE -TACTICS -TECHNIQUE	-4 X 7 MIN -3 X 2000M CONSTANT SPEED -5 X 5 MIN STRENGHT - ENDURANCE WATER	5-8
<i>IV</i>	165-175	10 - 45	4:1	-ANAEROBIC THRESHOLD -DEVELOPMENT OF AEROBIC CAPACITY -EFFICIENCY -STRENGHT ENDURANCE	-2 X 20 MIN WITH SR- CHANGE -3 X 5 KM- TIME - CONTROL -10 KM HEAD - RACE - 3 X 12 MIN STRENGHT ENDURANCE WATER	~4
<i>V</i>	150-165	30-90	-	-BASIC ENDURANCE -UTILIZATION OF AEROBIC CAPACITY -MAINTENANCE -TECHNIQUE	30-90 MIN STEADY STATE SR: 10 - 12 LESS THAN RACE - SR	~3
<i>VI</i>	135-150	>45	-	-UTILIZATION OF AEROBIC CAPACITY -REGENERATION -MAINTENANCE TECHNIQUE	-45 - 120 MIN STEADY STATE SR: 18-24 / MIN	<2

(FROM: V. NOLTE / A.MORROW / B.RICHARDSON / A.ROAF)

On water training speeds for 1x's and 2-'s

The following tables provide training speeds for 1x's and 2-'s at designated rates. The goal of establishing training speeds is to ensure that as athletes increase stroke rate they also increase boat speed appropriately.

The increase in boat speed must achieve the following:

- Increase towards the end goal of a targeted 2000m time.
- Be maintainable by the athlete over a given distance or time.

If an athlete is unable to achieve the training speeds at the designated rates, for a given distance or time, the coach should determine if this is a technical or physiological issue and adapt the training accordingly.

We have also included approximate categories of intensity to provide some guidance regarding on water training zones.

The Attached training speed tables are developed using Dr Valery Kleshnev's "Speed(Rate)-eWPS 12" worksheet.

The values used to establish the training speeds are as follows:

- 1) RCA's Gold Medal Standards are used as the 100%.
- 2) A stroke rate of 36 for 2-'s and 35 for 1x's is used as an average stroke rate for the 2000m race piece.

PLEASE NOTE: The following tables are based off of RCA's Gold Medal Standards representing training speeds set based on world best times. Coaches and athlete should consider this when working toward these #'s, as it may take time to build up to these speeds. Target Training speeds are set for "STILL" conditions, meaning no wind or current. Wind conditions and water temperature may impact boats training speeds up to +/- 2%. Coaches should use their knowledge of conditions and environmental impacts, specific to their region, to adjust this info accordingly.

RECOMMENDED TRAINING SPEEDS FOR DEVELOPING HP ATHLETES

JR MEN

Boat	Training	Stroke	Time	Time	% of
Class	Zone	Rate	500m	2000m	Sr GMS
8+	C1	>44	1:18.7	5:14.9	101%
	C2	37-38	1:24.6	5:38.3	94%
	C3	34-35	1:27.4	5:49.5	91%
	C4	27-29	1:34.6	6:18.6	84%
	C5	22-23	1:41.9	6:47.7	78%
	C6	18-19	1:47.4	7:09.7	74%
4-	C1	>43	1:23.9	5:35.6	101%
	C2	37-38	1:30.2	6:00.6	94%
	C3	34-35	1:33.1	6:12.5	91%
	C4	27-29	1:40.9	6:43.6	84%
	C5	22-23	1:48.7	7:14.6	78%
	C6	18-19	1:54.5	7:38.1	74%
4+	C1	>43	1:27.4	5:49.5	101%
	C2	36-37	1:33.9	6:15.5	94%
	C3	33-34	1:37.0	6:27.9	91%
	C4	27-29	1:45.1	7:00.2	84%
	C5	22-23	1:53.1	7:32.6	78%
	C6	18-19	1:59.3	7:57.0	74%
2-	C1	>43	1:31.8	6:07.3	101%
	C2	36-37	1:38.7	6:34.7	94%
	C3	33-34	1:41.9	6:47.7	91%
	C4	27-29	1:50.4	7:21.7	84%
	C5	22-23	1:58.9	7:55.6	78%
	C6	18-19	2:05.3	8:21.4	74%
1X	C1	>42	1:37.0	6:28.1	101%
	C2	36-37	1:44.3	6:57.0	94%
	C3	33-34	1:47.7	7:10.8	91%
	C4	27-29	1:56.7	7:46.7	84%
	C5	21-22	2:05.6	8:22.6	78%
	C6	18-19	2:12.4	8:49.7	74%
2X	C1	>43	1:29.4	5:57.4	101%
	C2	36-37	1:36.0	6:24.0	94%
	C3	33-34	1:39.2	6:36.7	91%
	C4	27-29	1:47.4	7:09.8	84%
	C5	22-23	1:55.7	7:42.8	78%
	C6	18-19	2:02.0	8:07.8	74%
4X	C1	>44	1:21.9	5:27.7	101%
	C2	37-38	1:28.0	5:52.1	94%
	C3	34-35	1:30.9	6:03.7	91%
	C4	27-29	1:38.5	6:34.0	84%
	C5	22-23	1:46.1	7:04.4	78%
	C6	19-20	1:51.8	7:27.3	74%

JR WOMEN

Boat	Training	Stroke	Time	Time	% of
Class	Zone	Rate	500m	2000m	Sr GMS
8+	C1	>43	1:27.1	5:48.5	101%
	C2	37-38	1:33.6	6:14.5	94%
	C3	35-36	1:36.7	6:26.8	91%
	C4	27-29	1:44.8	6:59.0	84%
	C5	22-24	1:52.8	7:31.3	78%
	C6	18-19	1:58.9	7:55.7	74%
4-	C1	>43	1:33.6	6:14.3	101%
	C2	34-36	1:40.5	6:42.1	94%
	C3	33-34	1:43.8	6:55.4	91%
	C4	27-29	1:52.5	7:30.0	84%
	C5	21-23	2:01.2	8:04.6	78%
	C6	18-19	2:07.7	8:30.8	74%
2-	C1	>43	1:41.7	6:46.9	101%
	C2	35-37	1:49.3	7:17.2	94%
	C3	34-35	1:52.9	7:31.6	91%
	C4	27-29	2:02.3	8:09.3	84%
	C5	22-24	2:11.7	8:46.9	78%
	C6	18-19	2:18.9	9:15.4	74%
1X	C1	>42	1:46.4	7:05.7	101%
	C2	34-36	1:54.4	7:37.4	94%
	C3	33-34	1:58.1	7:52.5	91%
	C4	27-29	2:08.0	8:31.9	84%
	C5	21-23	2:17.8	9:11.3	78%
	C6	18-19	2:25.3	9:41.1	74%
2X	C1	>43	1:38.0	6:32.1	101%
	C2	35-37	1:45.3	7:01.3	94%
	C3	33-35	1:48.8	7:15.2	91%
	C4	27-29	1:57.9	7:51.4	84%
	C5	21-23	2:06.9	8:27.7	78%
	C6	18-19	2:13.8	8:55.1	74%
4X	C1	>43	1:30.6	6:02.4	101%
	C2	36-38	1:37.3	6:29.4	94%
	C3	34-35	1:40.5	6:42.2	91%
	C4	27-29	1:48.9	7:15.7	84%
	C5	22-24	1:57.3	7:49.2	78%
	C6	18-19	2:03.6	8:14.6	74%

RECOMMENDED TRAINING SPEEDS FOR DEVELOPING HP ATHLETES

U23 MEN

Boat	Training	Stroke	Time	Time	% of
Class	Zone	Rate	500m	2000m	Sr GMS
8+	C1	>44	1:16.4	5:05.8	104%
	C2	37-38	1:22.0	5:27.8	97%
	C3	34-35	1:24.6	5:38.3	94%
	C4	27-29	1:31.4	6:05.5	87%
	C5	22-23	1:38.1	6:32.6	81%
	C6	18-19	1:43.2	6:53.0	77%
4-	C1	>43	1:21.5	5:26.0	104%
	C2	37-38	1:27.4	5:49.5	97%
	C3	34-35	1:30.2	6:00.6	94%
	C4	27-29	1:37.4	6:29.7	87%
	C5	22-23	1:44.6	6:58.5	81%
	C6	18-19	1:50.1	7:20.3	77%
4+	C1	>43	1:24.9	5:39.4	104%
	C2	36-37	1:31.0	6:03.9	97%
	C3	33-34	1:33.9	6:15.5	94%
	C4	27-29	1:41.4	6:45.7	87%
	C5	22-23	1:49.0	7:15.8	81%
	C6	18-19	1:54.6	7:38.4	77%
2-	C1	>43	1:29.2	5:56.7	104%
	C2	36-37	1:35.6	6:22.5	97%
	C3	33-34	1:38.7	6:34.7	94%
	C4	27-29	1:46.6	7:06.4	87%
	C5	22-23	1:54.5	7:38.0	81%
	C6	18-19	2:00.5	8:01.8	77%
1X	C1	>42	1:34.2	6:16.9	104%
	C2	36-37	1:41.0	6:44.1	97%
	C3	33-34	1:44.3	6:57.0	94%
	C4	27-29	1:52.6	7:30.6	87%
	C5	21-22	2:01.0	8:04.0	81%
	C6	18-19	2:07.3	8:29.1	77%
2X	C1	>43	1:26.8	5:47.1	104%
	C2	36-37	1:33.0	6:12.2	97%
	C3	33-34	1:36.0	6:24.0	94%
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	C6	18-19	1:57.2	7:48.8	77%
4X	C1	>44	1:19.6	5:18.3	104%
	C2	37-38	1:25.3	5:41.2	97%
	C3	34-35	1:28.0	5:52.1	94%
	C4	27-29	1:35.1	6:20.5	87%
	C5	22-23	1:42.2	6:48.6	81%
	C6	19-20	1:47.5	7:09.9	77%

U23 WOMEN

Boat	Training	Stroke	Time	Time	% of
Class	Zone	Rate	500m	2000m	Sr GMS
8+	C1	>43	1:24.6	5:38.5	104%
	C2	37-38	1:30.7	6:02.9	97%
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RECOMMENDED TRAINING SPEEDS FOR DEVELOPING HP ATHLETES

U23 LWT MEN

Boat Class	Training Zone	Stroke Rate	Time 500m	Time 2000m	% of Sr GMS
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	C2	37-38	1:28.9	5:55.7	97%
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RECOMMENDED TRAINING SPEEDS FOR DEVELOPING HP ATHLETES											
MEN						WOMEN					
Boat Class	Training Zone	Stroke Rate	Time 500m	Time 2000m	% of Sr GMS	Boat Class	Training Zone	Stroke Rate	Time 500m	Time 2000m	% of Sr GMS
8+	C1	>44	1:14.3	4:57.2	107%	8+	C1	>43	1:22.2	5:29.0	107%
	C2	37-38	1:19.5	5:18.0	100%		C2	37-38	1:28.0	5:52.0	100%
	C3	34-35	1:22.0	5:27.8	97%		C3	35-36	1:30.7	6:02.9	97%
	C4	27-29	1:28.3	5:53.3	90%		C4	27-29	1:37.8	6:31.1	90%
	C5	22-23	1:34.6	6:18.6	84%		C5	22-24	1:44.8	6:59.0	84%
	C6	18-19	1:39.4	6:37.5	80%		C6	18-19	1:50.0	7:20.0	80%
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	C2	37-38	1:24.8	5:39.0	100%		C2	34-36	1:34.5	6:18.0	100%
	C3	34-35	1:27.4	5:49.5	97%		C3	33-34	1:37.4	6:29.7	97%
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RECOMMENDED TRAINING SPEEDS FOR DEVELOPING HP ATHLETES

LWT MEN

Boat Class	Training Zone	Stroke Rate	Time 500m	Time 2000m	% of Sr GMS
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AVERAGE SPEED FOR JUNIOR EVENT PLACINGS 2008-2013

	JUNIOR MEN							JUNIOR WOMEN					
	JM1X	JM2-	JM2X	JM4+	JM4-	JM4X	JM8+	JW1X	JW2-	JW2X	JW4-	JW4x	JW8+
Gold	93%	91%	92.6%	92%	92.2%	92.1%	92.2%	91.2%	91.5%	91.1%	91.7%	92.3%	90.9%
Silver	92%	91%	91.9%	92%	91.7%	91.7%	91.9%	90.4%	90.9%	90.3%	91.2%	91.5%	90.2%
Bronze	91%	91%	91.3%	92%	91.1%	91.3%	91.3%	89.8%	90.3%	90.0%	90.8%	91.0%	89.3%
4th	91%	90%	90.5%	91%	90.5%	90.8%	91.1%	89.1%	89.3%	89.4%	90.1%	90.6%	88.0%
5th	89%	90%	89.8%	90%	89.7%	89.8%	90.1%	88.3%	88.6%	88.5%	89.3%	89.8%	87.1%
6th	88%	89%	88.9%	89%	88.9%	89.5%	88.5%	87.5%	87.6%	87.8%	87.8%	89.2%	84.0%
slowest qualifying time	91%	87%	91.0%	90%	89.4%	90.6%	89.1%	89.3%	88.1%	89.6%	87.2%	89.5%	86.1%

ROW TO PODIUM ERGOMETER AND BOAT TRAINING

TRAINING TO STIMULATE ERGOMETER IMPROVEMENT. (SPEED)

Workouts should be completed as part of a regular training program. These sessions are not meant to be “tests” therefore do not require any adjustments or taper to the weekly program. The objective is to measure improvement in the capability to improve and sustain speed.

Workout: 250m repeats at above race pace

Goals:

- Develop understanding of length, power, rate and rhythm
- Physiological development
- Inter-RTP competitive environment
- Intrinsic motivation through promotion system.

Set up / Protocol

- Athlete completes warm up
- Set ergometer to standard drag factor and the monitor to 250 meters
- With a rolling start, the rower completes 250 meters maintaining the speed (time per 250 m) assigned to their age, USING FULL SLIDE as in racing.
- If the speed is achieved, the rower repeats 250 meters on 5 minutes centres.
- This is repeated until speed cannot be achieved for 2 consecutive 250m.

Recording: total # of completed 250's and the target split.

Stage Promotion:

Once an athlete can complete more than **twenty** 250m's in one session, they are promoted to the next age group.

Once an athlete can complete more than **twenty** 250m's in one session, at the 24+ standard, the distance should be increased to 500m with 10 minutes rest.

TARGET TIMES by age – ERGOMETER (Use Pacing targets for Water speeds)

Men										
AGE	15	16	17	18	19	20	21	22	23	24+
Time	6:29	6:21	6:14	6:08	6:02	5:57	5:54	5:50	5:47	5:45
Split	01:37.2	01:35.3	01:33.5	01:32.0	01:30.5	01:29.3	01:28.4	01:27.6	01:26.7	01:26.1
Watts	381	404	429	450	473	491	506	521	537	548
250m	00:48.6	00:47.7	00:46.7	00:46.0	00:45.2	00:44.7	00:44.2	00:43.8	00:43.4	00:43.1

Women										
AGE	15	16	17	18	19	20	21	22	23	24+
Time	7:30	7:22	7:13	7:06	6:59	6:54	6:50	6:46	6:42	6:39
Split	01:52.5	01:50.4	01:48.3	01:46.5	01:44.8	01:43.4	01:42.4	01:41.4	01:40.4	01:39.8
Watts	246	260	276	290	304	316	326	336	346	353
250m	00:56.3	00:55.2	00:54.1	00:53.3	00:52.4	00:51.7	00:51.2	00:50.7	00:50.2	00:49.9

ROW TO PODIUM ERGOMETER TRAINING
TRAINING TO STIMULATE ERGOMETER IMPROVEMENT. (MENTAL TOUGHNESS AND
AEROBIC DEVELOPMENT)

Workout: 30 Minute Rate 20

Goals:

- Develop Aerobic Power.
- Physiological development
- Inter-RTP competitive environment

Rationale:

- The 30 min workout is not a test but a training workout that is recorded to provide a stimulus for improvement
- With a capped rate of 20 strokes per minute (spm) the athlete has to maintain pace by pulling harder rather than by rating higher – mental toughness
- Although this is not purely an aerobic exercise, with a capped rate there is not the option to use anaerobic energy to improve scores i.e. more **emphasis** on the aerobic content.

Protocol

- Athlete completes warm up
- Ergometer is set for 30 minutes and normal drag factor for the athletes category.
- Athlete completes 30 minutes at a maximum rate of 20 spm at maximum effort.

Recording: The total distance and average Rate are recorded and submitted (scores achieved at average rate over 20 spm are not recorded).

TOTAL WORKOUT

The 30 min could be incorporated as part of an aerobic training session, ideally totalling 90-120 minutes. It can be used as an off-water warm-up/work load for a water session or on-land training session.

The following are a couple examples of a total training session incorporating this session.

A:

- 1) Warm up
- 2) 30 minutes, Rate 20
- 3) 30 minutes bike (C6)
- 4) 15 minutes Erg (C6)
- 5) 30 minutes bike (C6)
- 6) 15 minutes Erg (C6)

B:

- 1) Warm up
- 2) 30 minutes, Rate 20
- 3) 60 – 90 minute Rowing at Aerobic Pace (Category 5,6)