

VÝZNAM PLAVECKEJ ANALYTIKY A SKÚSENOSTI SO SLOVENSKÝMI PLAVCAMI V ROKU 2022



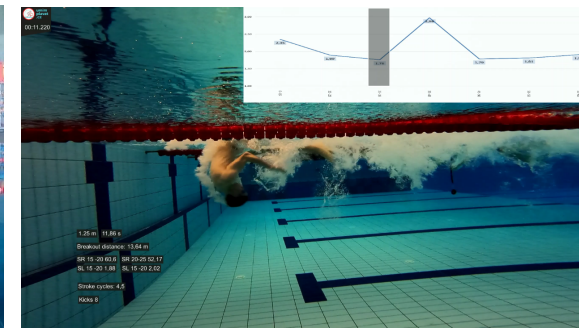
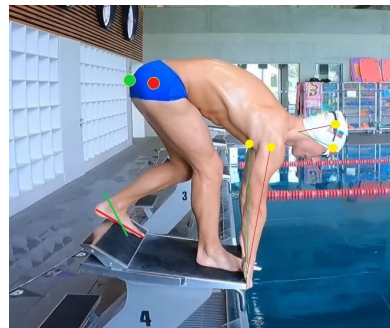
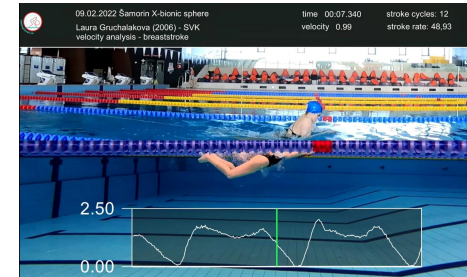
Slovakia Swimming cup 20.10. 2022
Šamorin X-bionic Sphere

Mgr. Marek Polach
Mgr. Jakub Březina

ANALÝZA PLAVECKÉ TECHNIKY

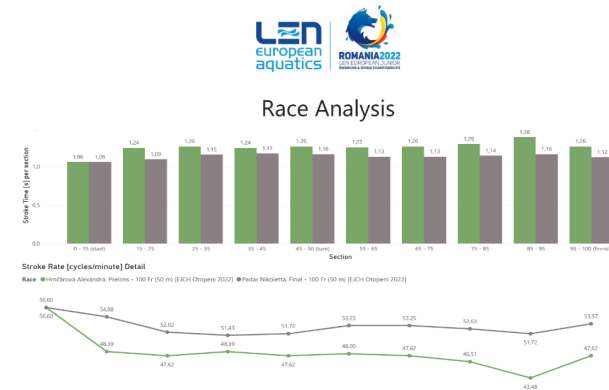
VT Šamorín (04.02-12.02. 2022)

VT Pardubice (07.03. - 10.03.)



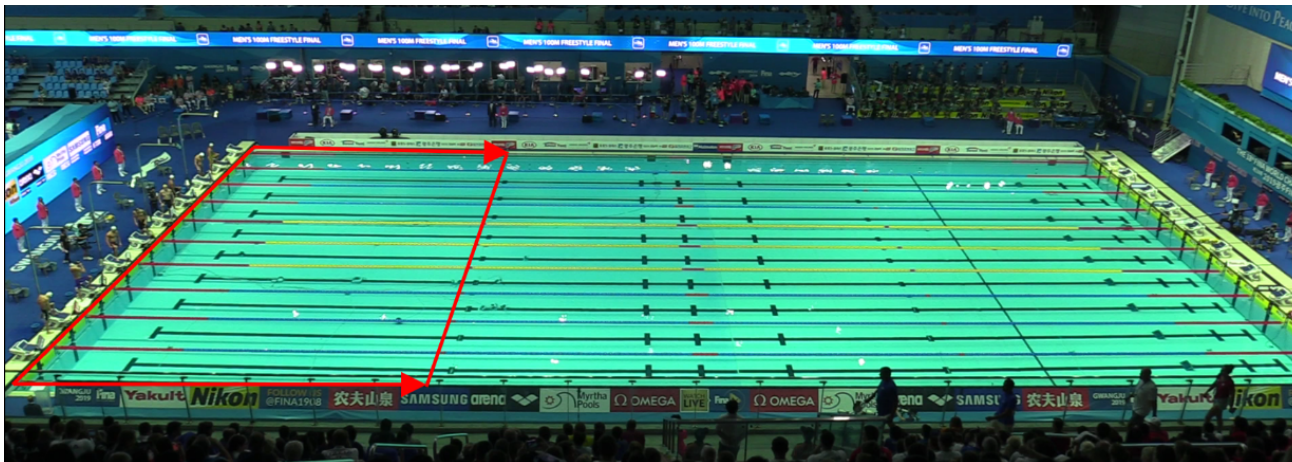
ANALÝZA ZÁVODNÍHO VÝKONU

EJCH Otopeni (05.06. - 10. 06. 2022)

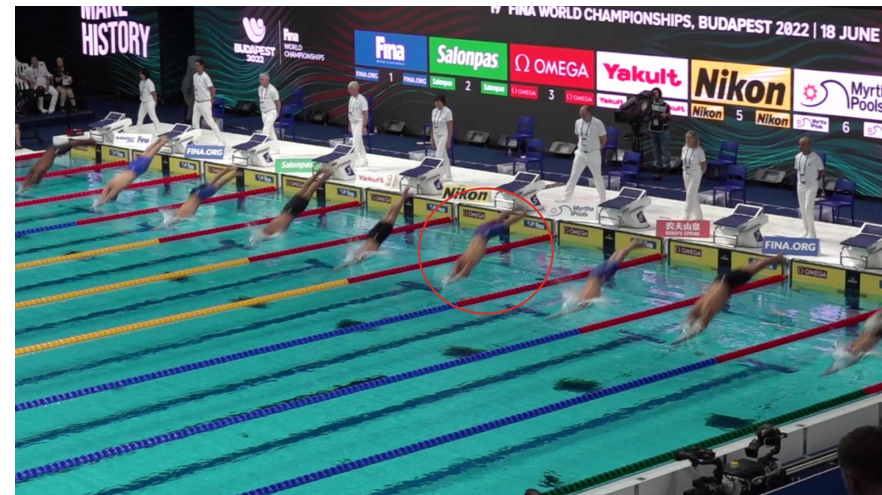
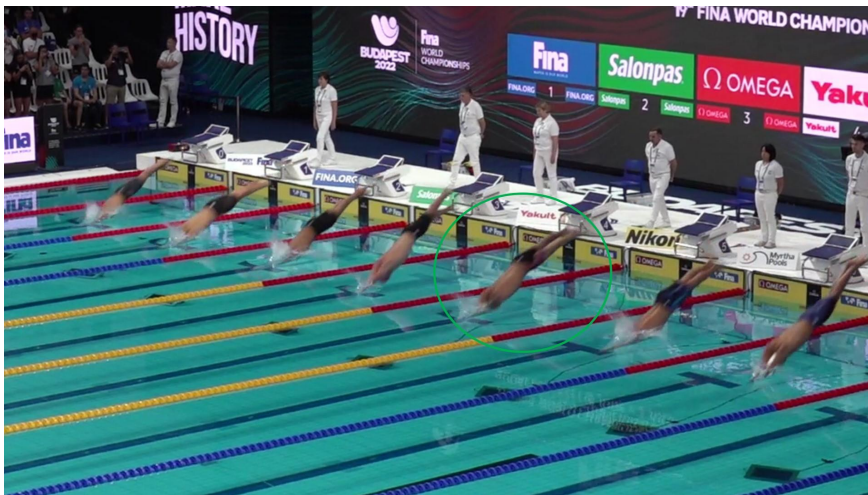


STARTOVNÍ ÚSEK - HLAVNÍ PARAMETRY

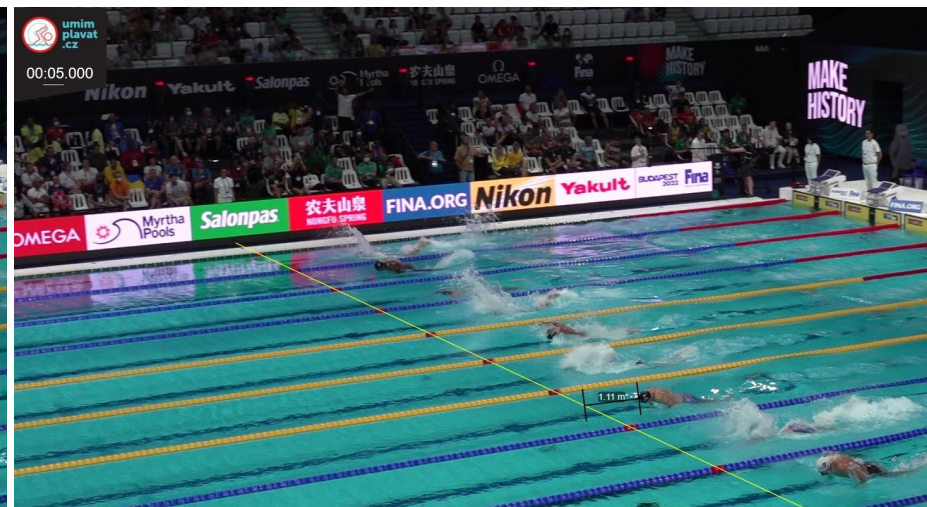
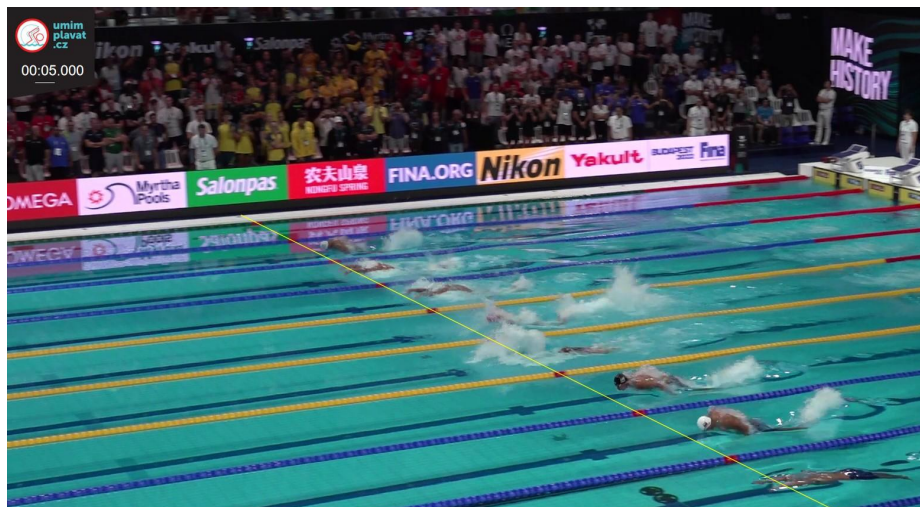
- Reakční čas (RT)
- Čas letové fáze (Flight time)
- Čas do protnutí hladiny (Entry time)
- Vzdálenost startovního skoku (Flight distance)
- Čas 15 m po startu (Time 0-15)



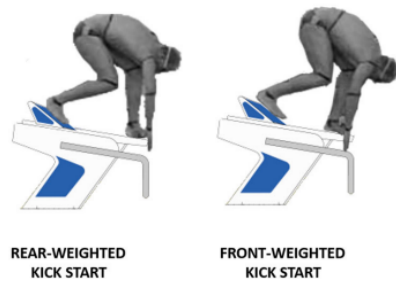
Race	Position	Race Time	Reaction Time	Flight Time	Entry Time	Flight Distance	Time 0-5m	Time 0-15
Dressel Caeleb, Final - 50 Bf (50 m) [WCH Budapest 2022]	1	00:22.57	0.62	0.42	1.04	3.70	1.24	5.00
Halas Adam, Prelims - 50 Bf (50 m) [WCH Budapest 2022]	34	00:23.94	0.65	0.46	1.11	3.78	1.39	5.40



Race	Breakout length	Underwater kicks	Breakout speed
Dressel Caeleb, Final - 50 Bf (50 m) [WCH Budapest 2022]	13,41	5	3,19
Halas Adam, Prelims - 50 Bf (50 m) [WCH Budapest 2022]	13,96	9	2,87



STARTOVNÍ ÚSEK - POSTAVENÍ NA BLOKU

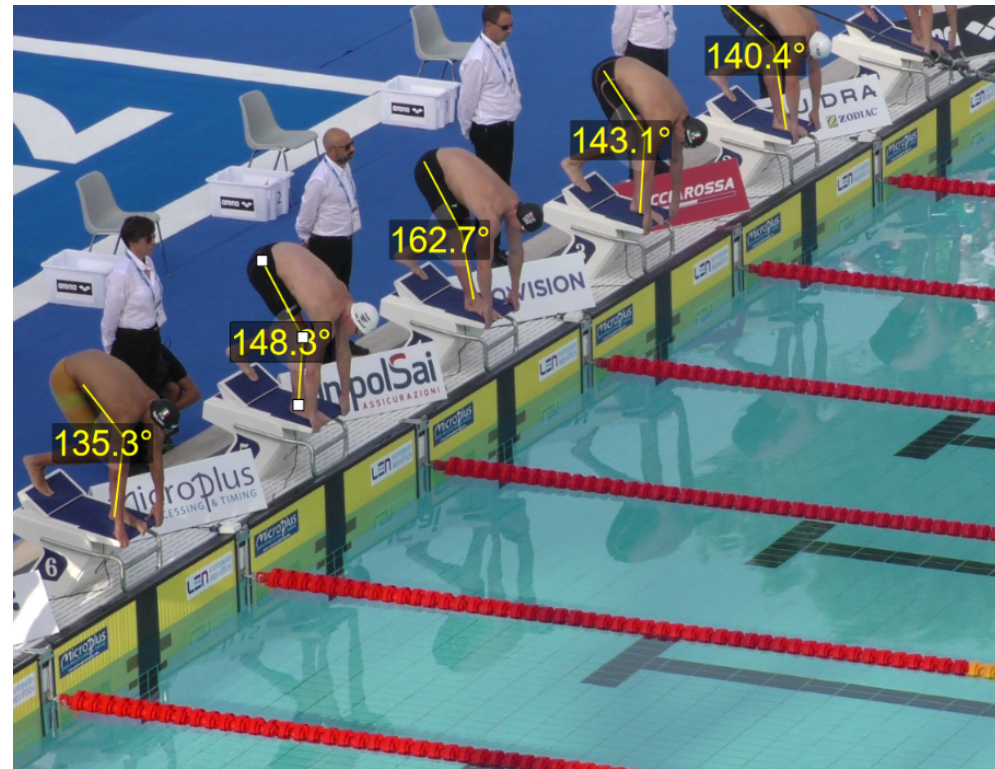


STRONG START FAST START



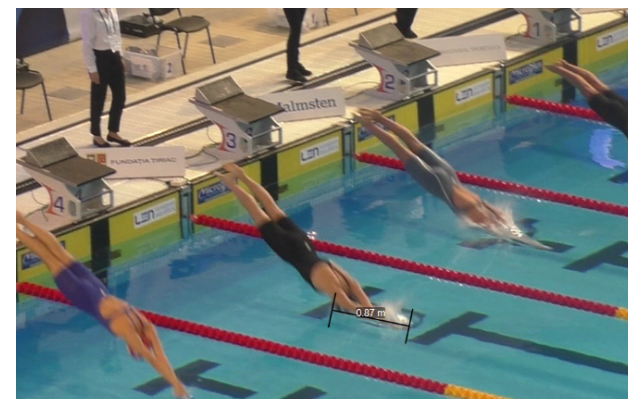
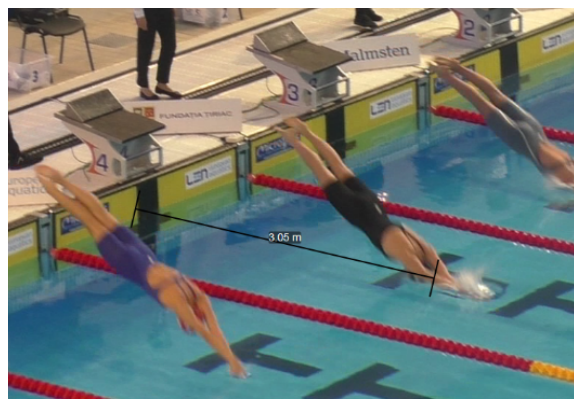
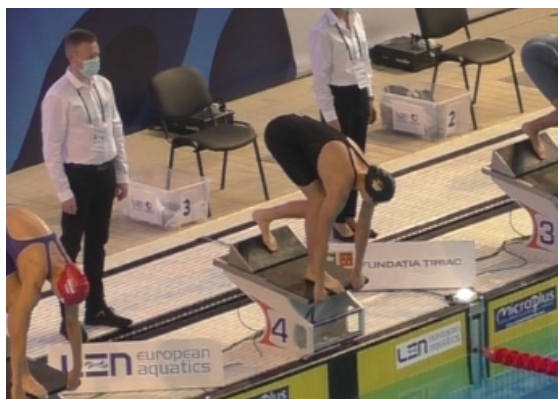
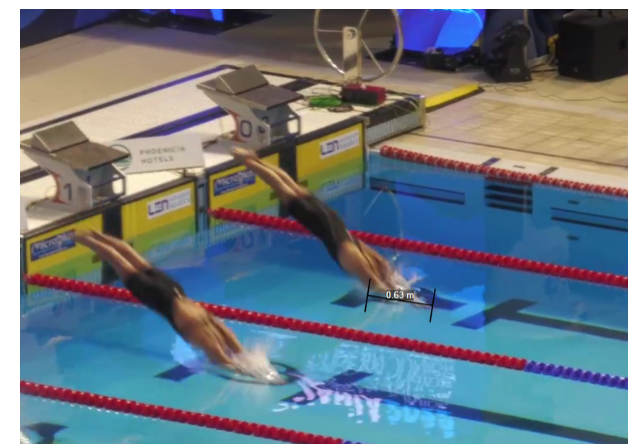
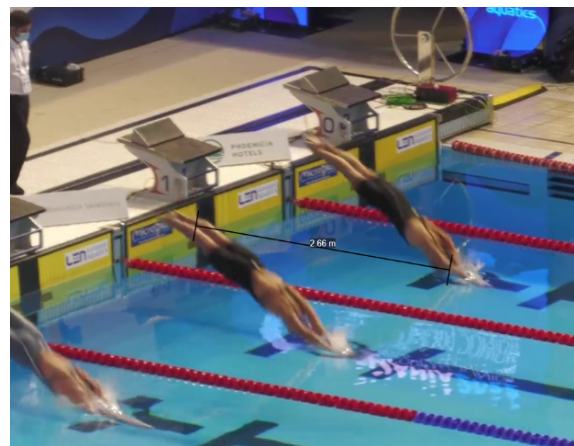
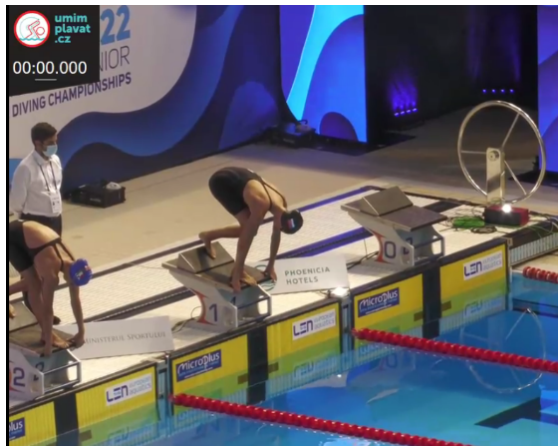
Caeleb Dressel (USA)

Andrej Minakovi (RUS)

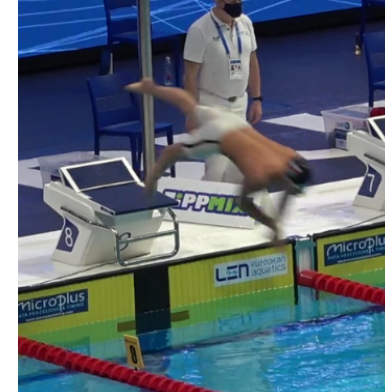


Finále 50 VZ muži (ME Řím 2022) - postavení na bloku

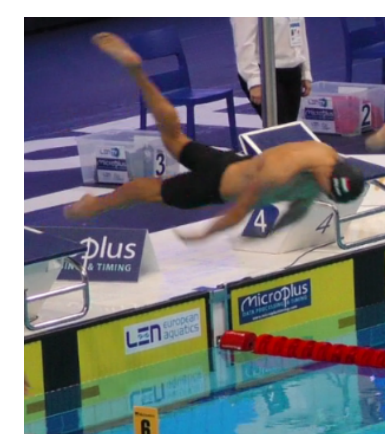
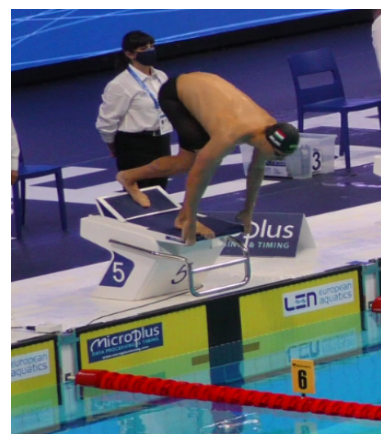
Race	Position	Race Time	Reaction Time	Flight Time	Entry Time	Flight Distance	Time 0-5m	Time 0-15
Jazy Nina Sandrine, Final - 50 Fr (50 m) [EJCH Otopeni 2022]	1	00:25.22	0,64	0,30	0,94	3,05	1,36	6,42
Slušná Lillian, Final - 50 Fr (50 m) [EJCH Otopeni 2022]	8	00:25.72	0,57	0,34	0,91	2,66	1,35	6,52



STARTOVNÍ ÚSEK - LETOVÁ FÁZE

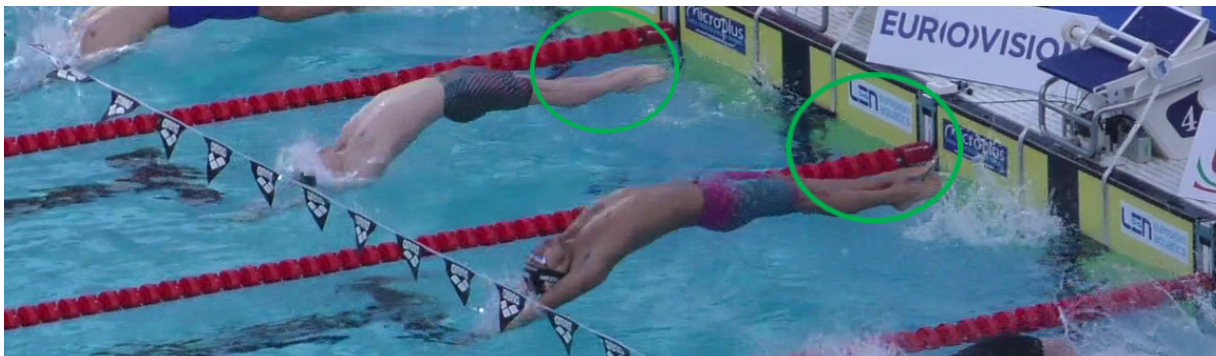


Ondřej Gemov (CZE) - 200 M (ME Budapest 2021) vs. Kristof Milak (HUN) - 200 M (ME Budapest 2021)



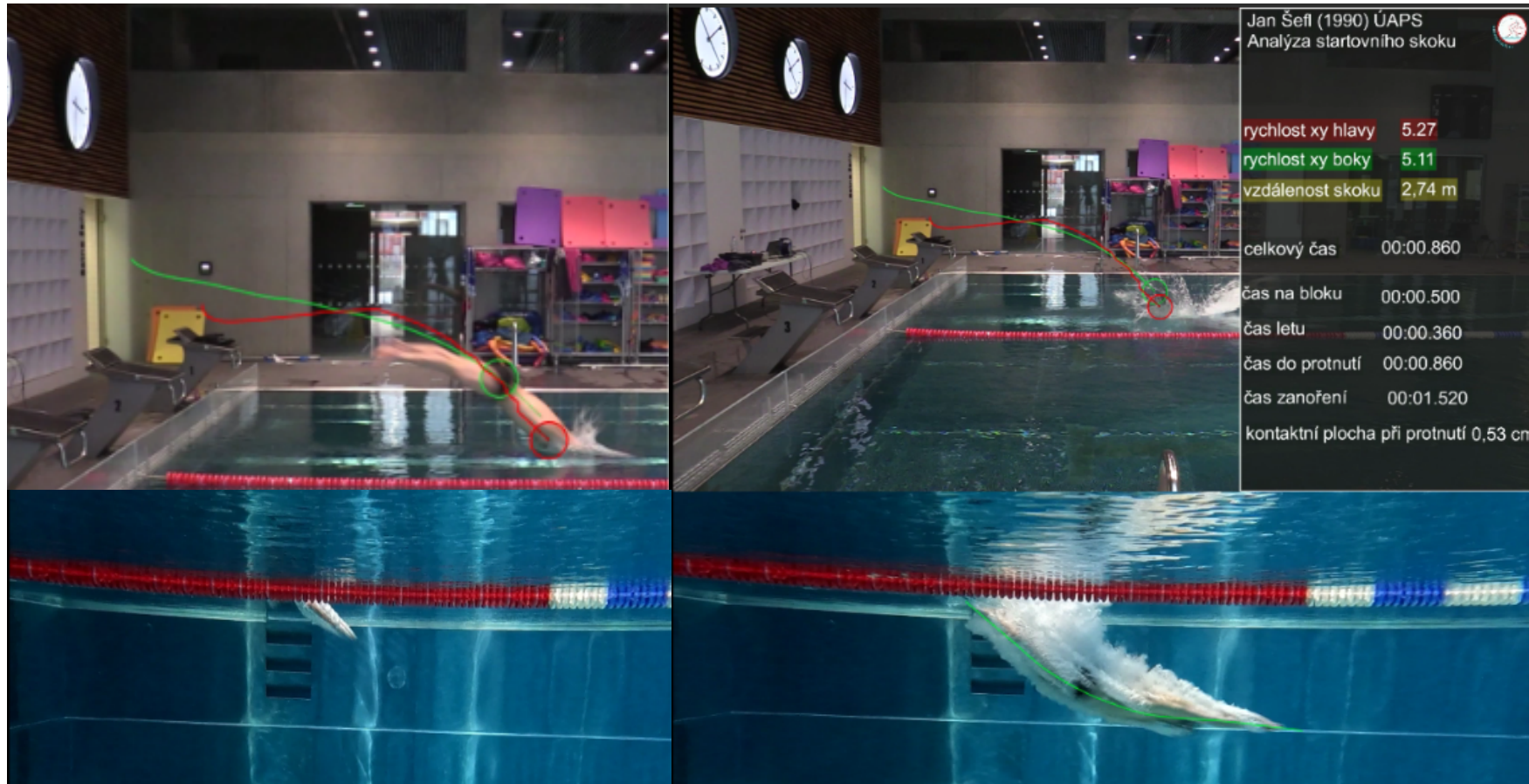


Patrik Foltan (SVK) - start 100 znak (MEJ Otopeni 2022)

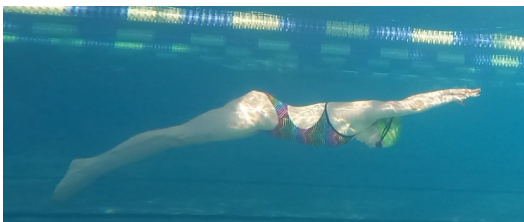
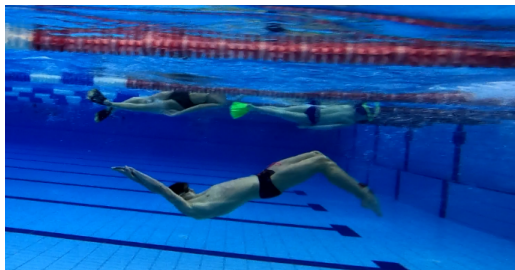


Thomas Ceccon (ITA) Luke Greenbank (GBR) - start 4x100 PZ (ME Řím 2022)

STARTOVNÍ ÚSEK - PROTNUTÍ HLADINY PO STARTU

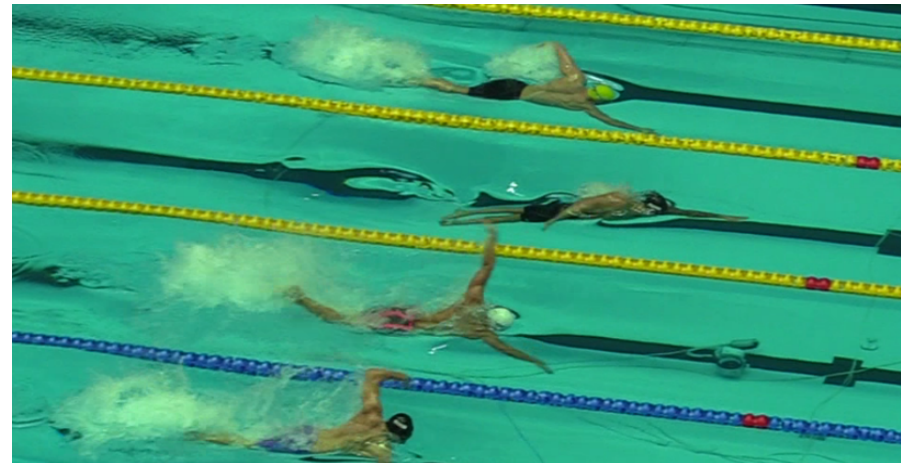
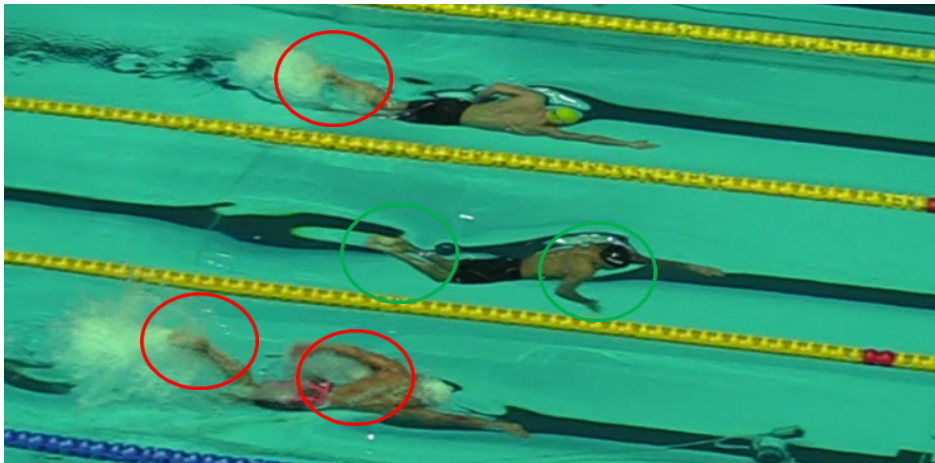


STARTOVNÍ ÚSEK - FÁZE POD HLADINOU

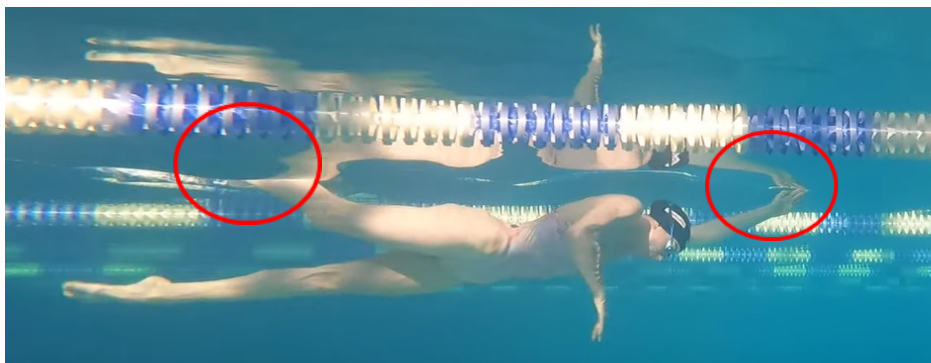


Race	Breakout length	Underwater kicks	Breakout speed
▲ Dressel Caeleb, Final - 50 Bf (50 m) [WCH Budapest 2022]	13,41	5	3,19
Halas Adam, Prelims - 50 Bf (50 m) [WCH Budapest 2022]	13,96	9	2,87

STARTOVNÍ ÚSEK - VÝJEZD (BREAKOUT)



Caeleb Dressel (USA) - finále 100 V muži (MS Gwangju 2019) - breakout



Barbora Mikušková (SVK) - 07.03. 2022 Pardubice



Barbora Mikušková (SVK) - 10.03. 2022 Pardubice

STARTOVNÍ ÚSEK - PROGRESS VÝKONNOSTI NA ZÁKLADĚ SYSTEMATICKÉHO TRÉNINKU

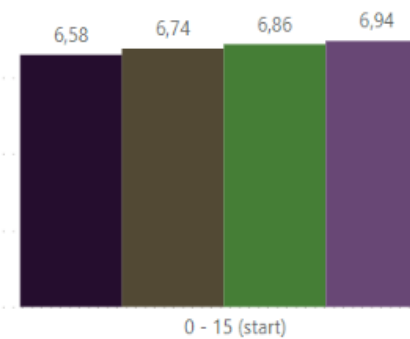


Race ● Seemanová Barbora, Prelims - 200 Fr (25 m) [ECH Copenhagen 2017]

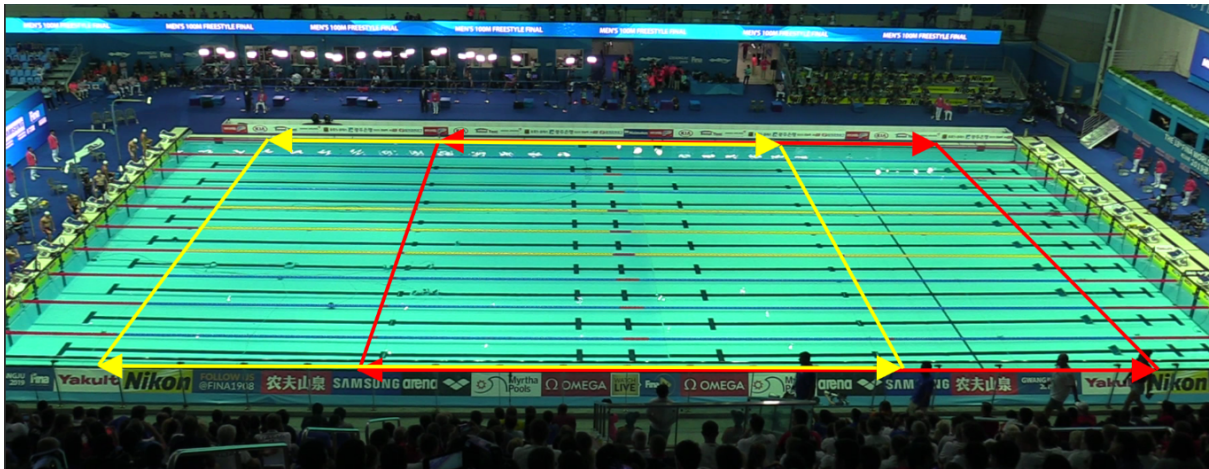
Race ● Seemanová Barbora, Final - 200 Fr (25 m) [MS Hangzhou 2018]

Race ● Seemanová Barbora, Final - 200 Fr (25 m) [ME Glasgow 2019]

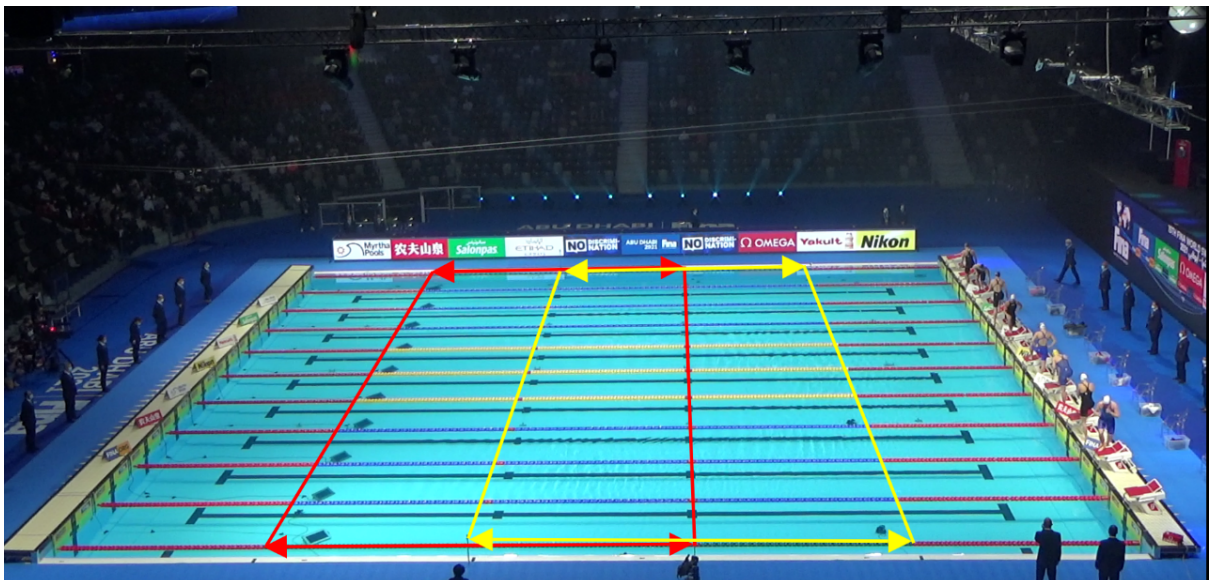
Race ● Seemanová Barbora, Final - 200 Fr (25 m) [ECH Kazan 2021]



PLAVECKÝ ÚSEK - ROZLOŽENÍ BAZÉNU



50 m bazén (plavecký úsek = 30m)



25 m bazén (plavecký úsek = 10 m)

Hlavní parametry

Záběrová Frekvence (Stroke rate - SR)

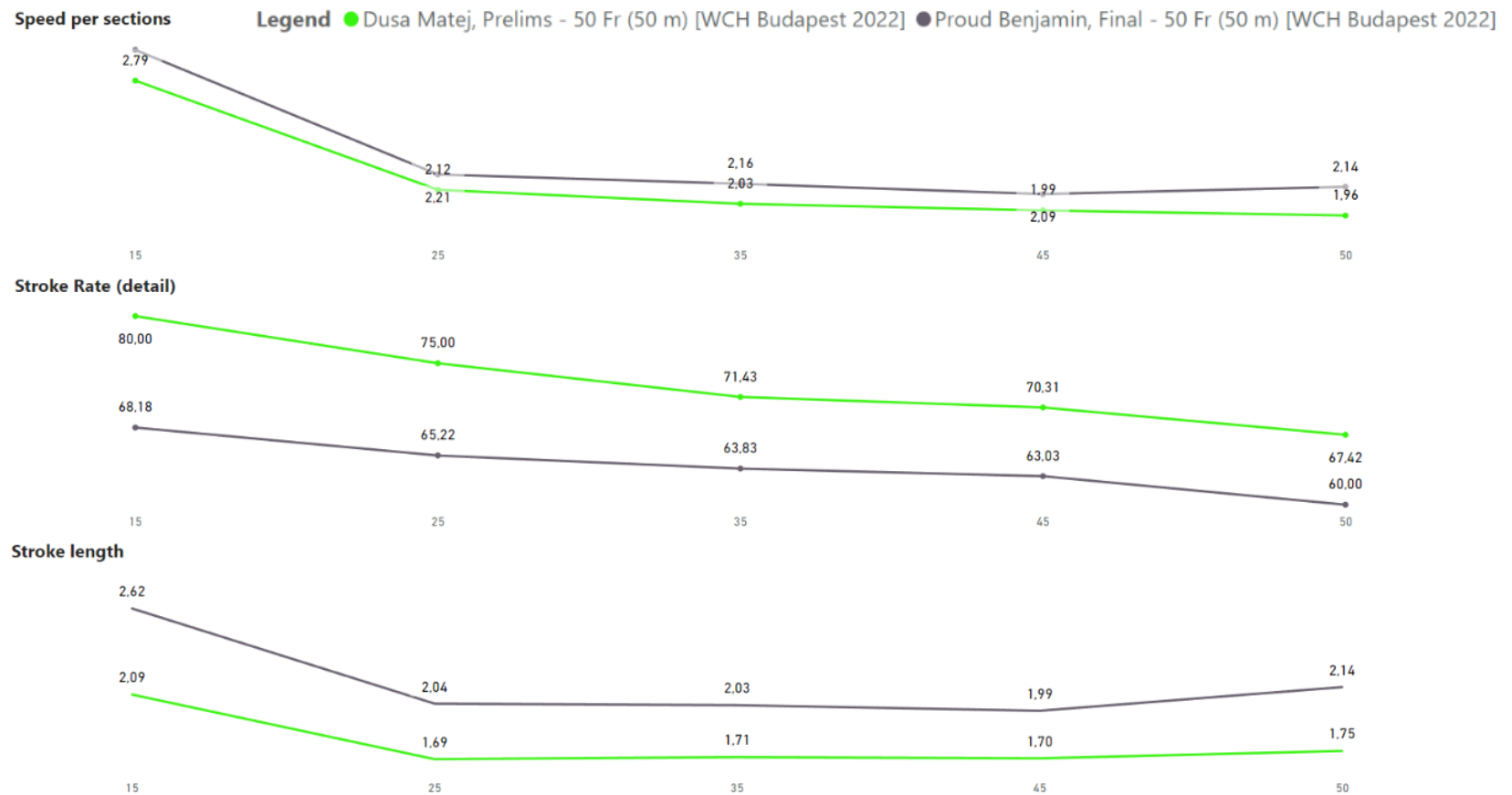
vs.

Délka plaveckého kroku (Stroke length - SL)

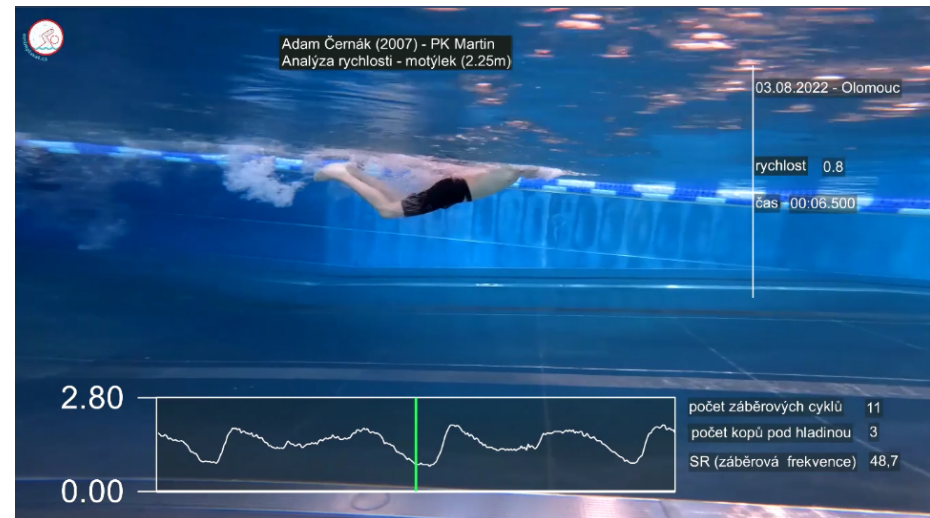
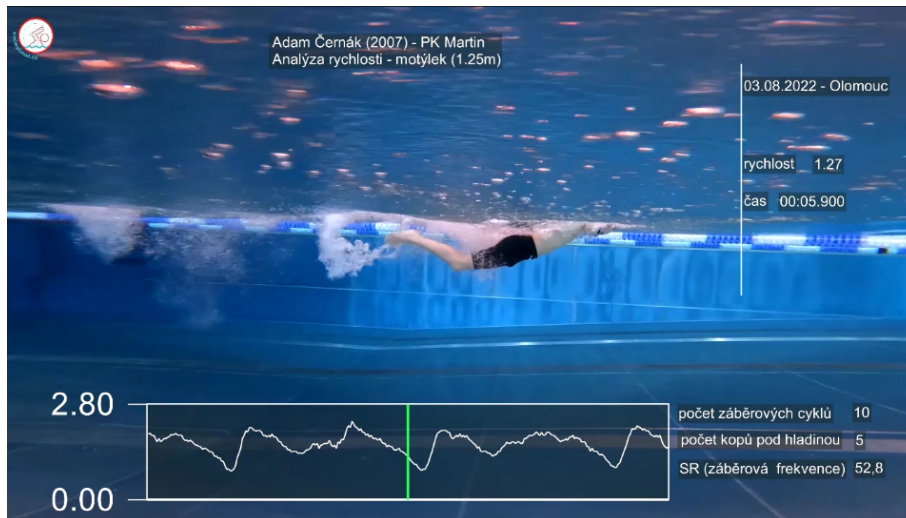
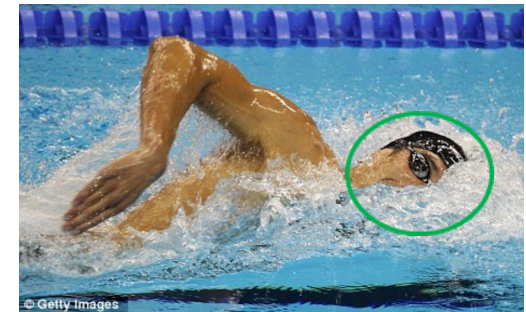
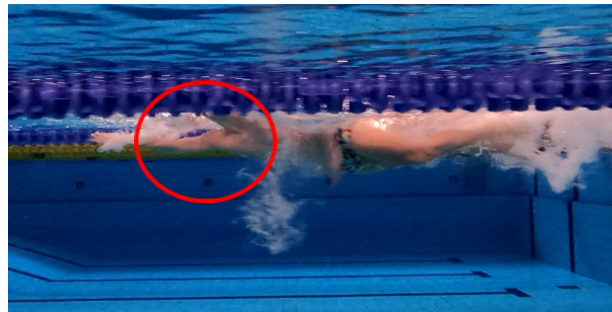
Záběrová Frekvence (Stroke rate - SR)

vs.

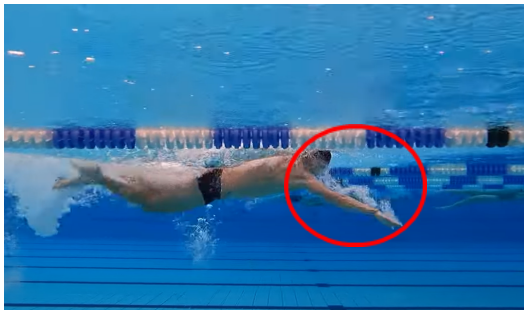
Délka plaveckého kroku (Stroke length - SL)



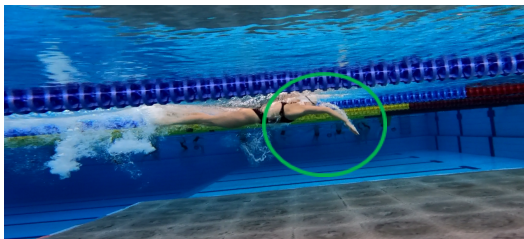
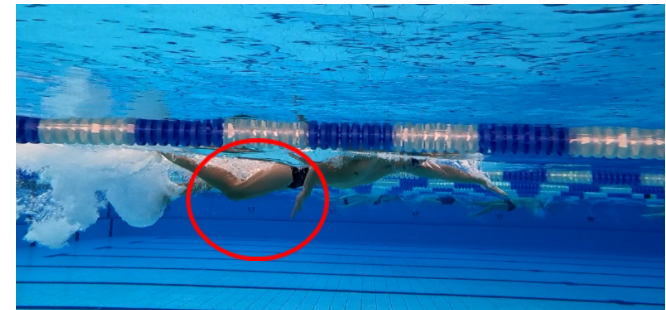
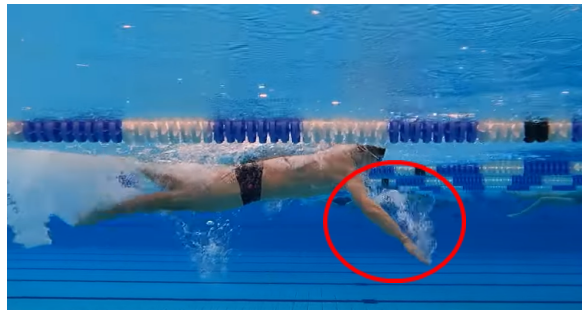
Co ovlivňuje záběrovou frekvenci ?



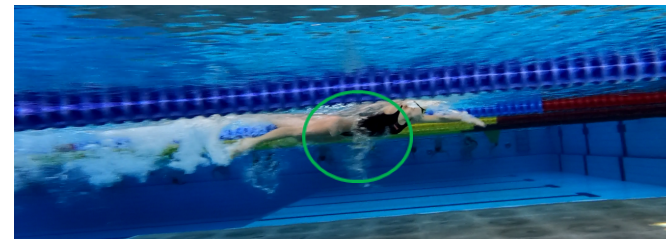
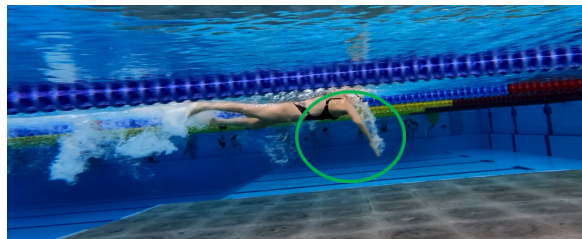
Co ovlivňuje DĚLKU PLAVECKÉ KROKU ?



Böhman Patrik (SVK)



Šprláková Olivia (SVK)





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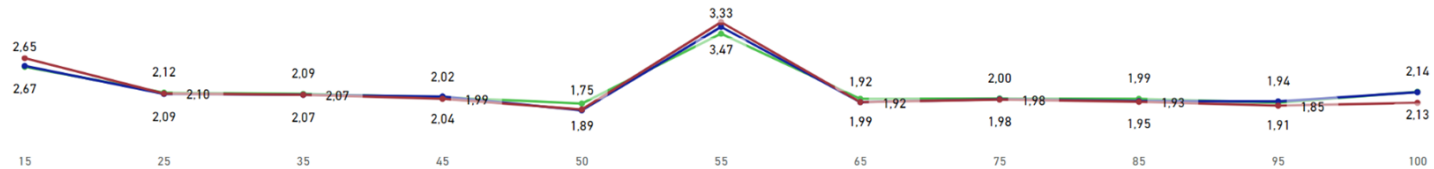
A Scientific Analysis Of The Improvement Of David Popovici; How The Teen Set the 100 Freestyle World Record

Author details

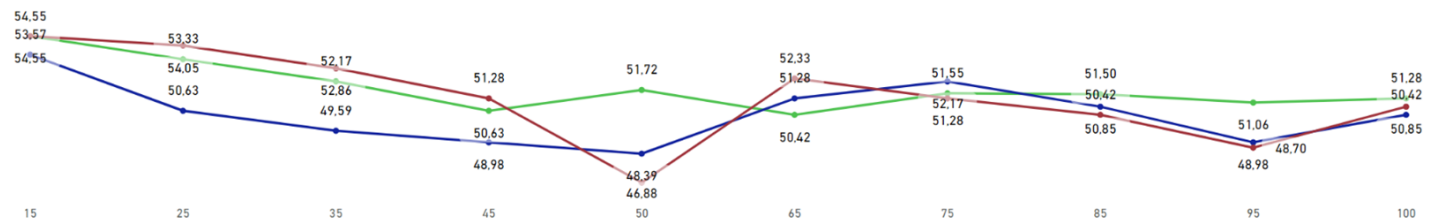
- Marek Polach, Jakub Brezina, Jan Krenik (Swim analysis company 'Umimplavat.cz' which is providing race analyses for the Austria, Czech and Slovakia swimming federation)



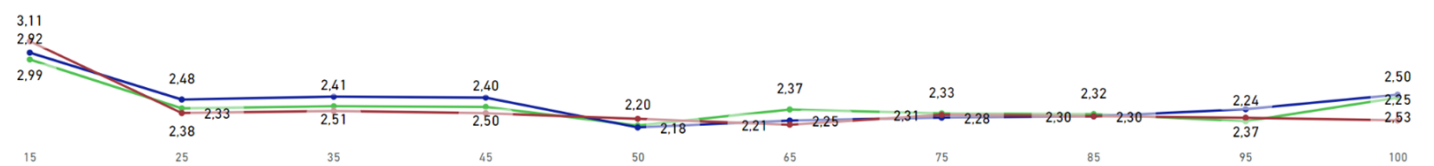
Speed per sections ● Popovici David, Final - 100 Fr (50 m) [ECH Rome 2022] ● Popovici David, Final - 100 Fr (50 m) [EJCH Rome 2021] ● Popovici David, Final - 100 Fr (50 m) [WCH Budapest 2022]



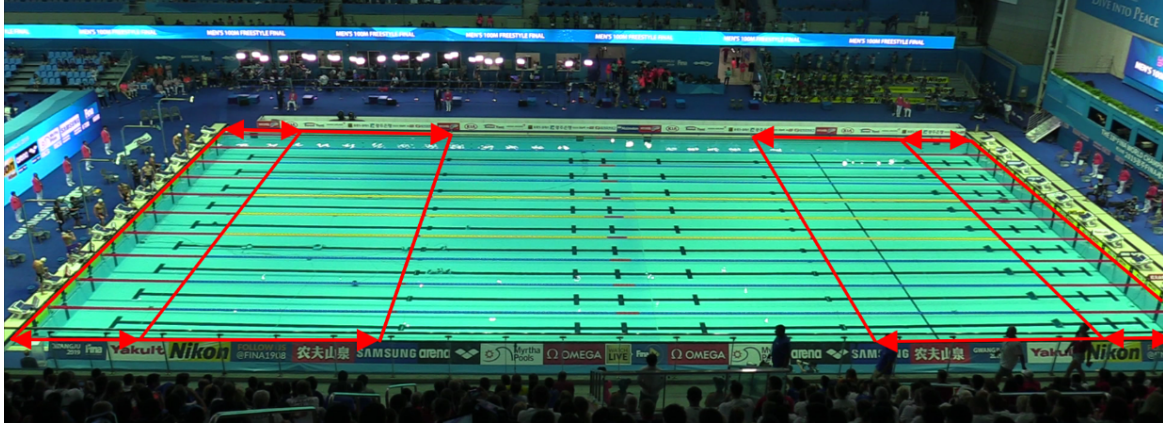
Stroke Rate (detail)



Stroke Length (detail)



OBRÁTKOVÝ ÚSEK - ROZLIŠUJÍCÍ FAKTOR VÝKONNOSTI



5 m před + 10 m po obrátce (5+10)

5 m před + 15 m po obrátce (5+15)

Hlavní parametry

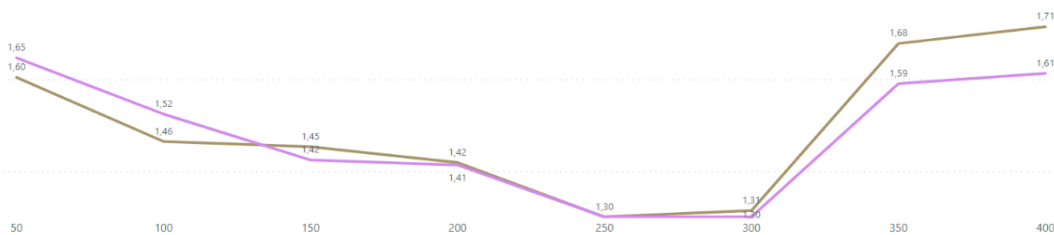
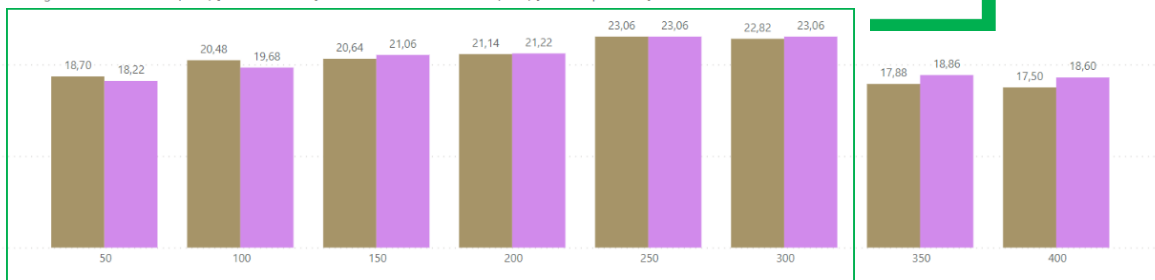
- čas
- rychlost
- vzdálenost

Name	TOTAL RACE TIME	START TIME [s]	SWIM TIME [s]	TURN TIME [s]	FINISH TIME [s]
Buessing Cedric - 400 IM Final (EJCH ROME 2021)	04:17,40	6,34	162,22	86,16	2,68
Dikacz Bence - 400 IM Final (EJCH Otopeni 2022)	04:22,54	6,70	163,76	89,54	2,54
Time behind	5,14	0,36	1,54	3,38	0,14

Plavecký úsek

Name	SWIM SPLIT TIME 300 m [s]
Buessing Cedric - 400 IM Final (EJCH ROME 2021)	02:06,84
Dikacz Bence - 400 IM Final (EJCH Otopeni 2022)	02:06,30
Time behind	0,54

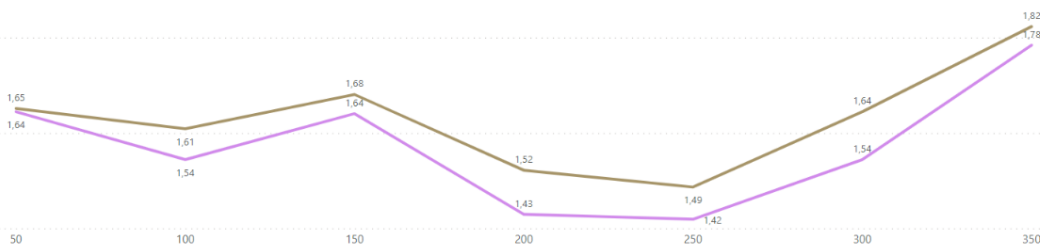
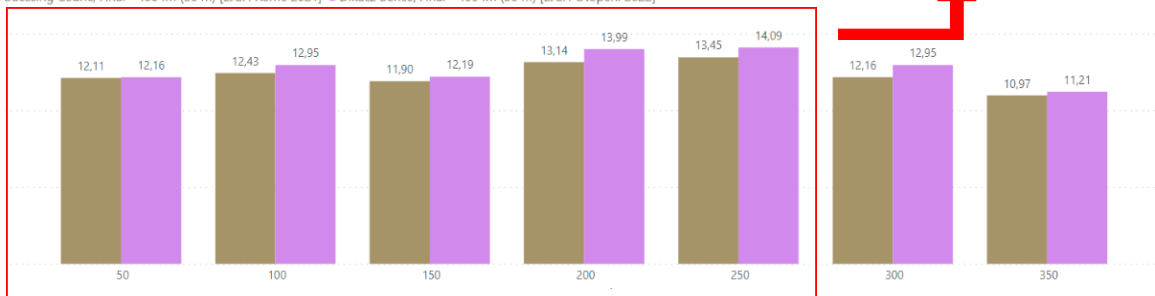
● Buessing Cedric, Final - 400 IM (50 m) [EJCH Rome 2021] ● Dikacz Bence, Final - 400 IM (50 m) [EJCH Otopeni 2022]



Obrátkový úsek

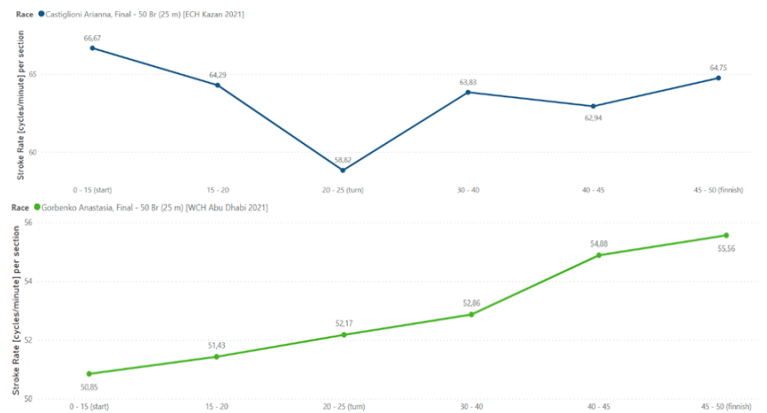
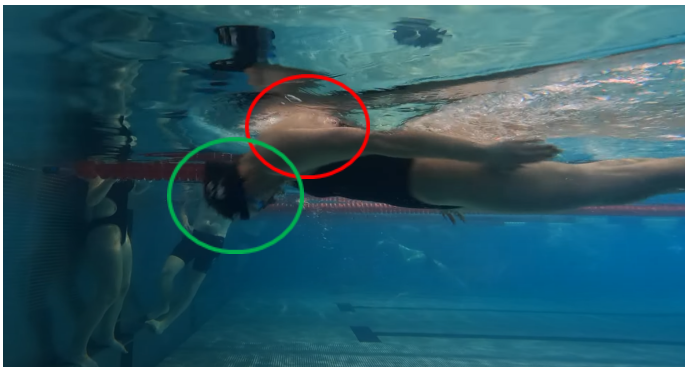
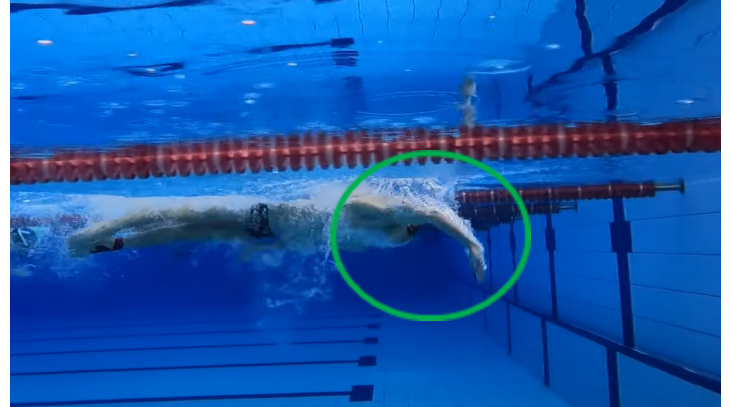
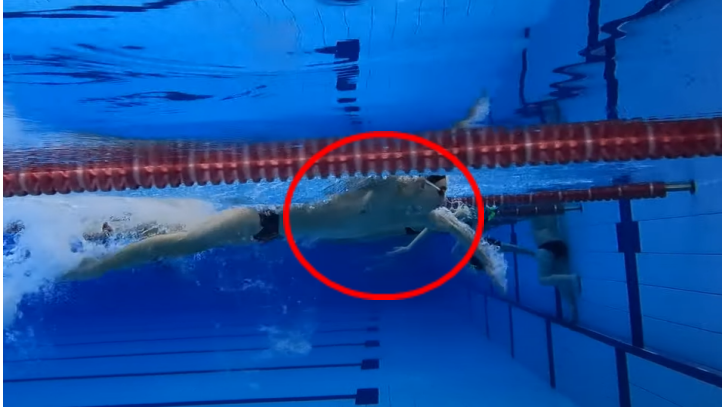
Name	TURN SPLIT TIME 300 m [s]
Buessing Cedric - 400 IM Final (EJCH ROME 2021)	01:03,03
Dikacz Bence - 400 IM Final (EJCH Otopeni 2022)	01:05,38
Time behind	2,35

● Buessing Cedric, Final - 400 IM (50 m) [EJCH Rome 2021] ● Dikacz Bence, Final - 400 IM (50 m) [EJCH Otopeni 2022]



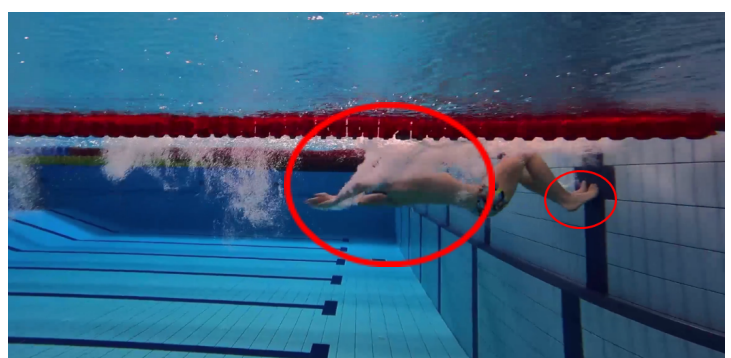
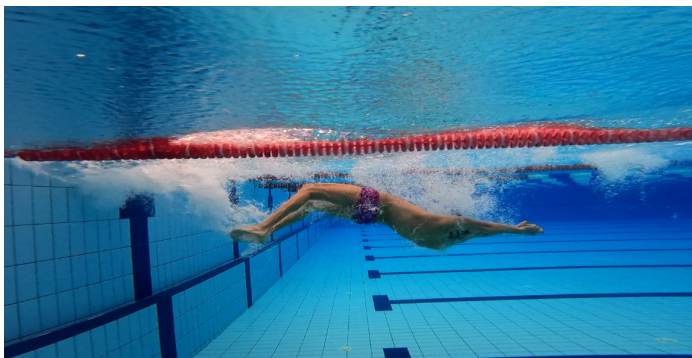
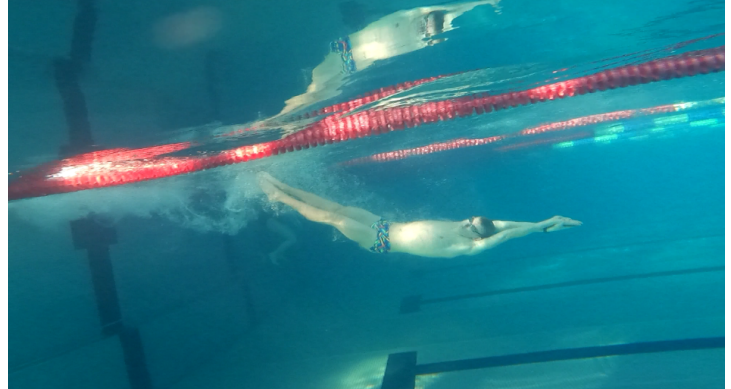
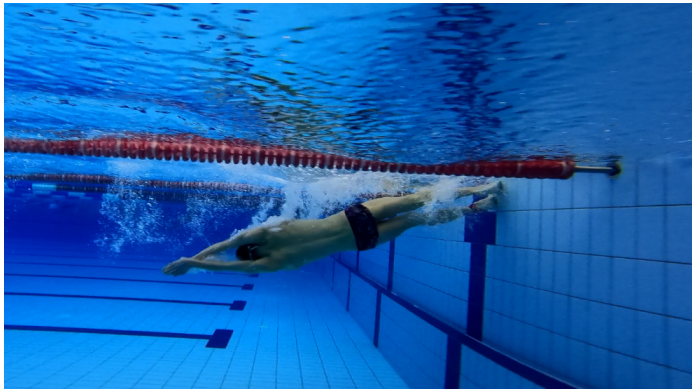
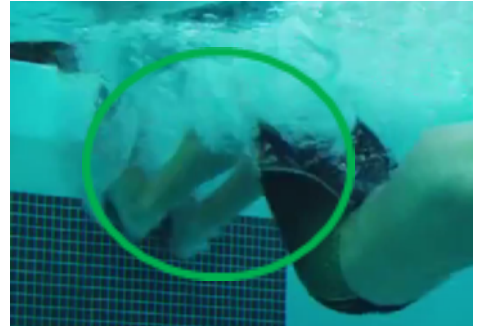
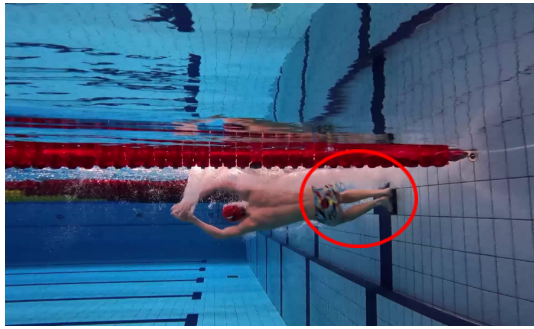
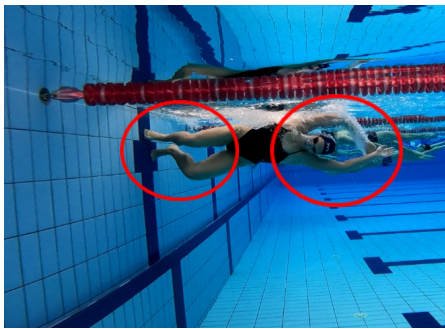
5 M PŘED OBRÁTKOU (5IN)

- pozice hlavy během naplavání
- změna rychlosti / frekvence během naplavání
- vzdálenost od stěny

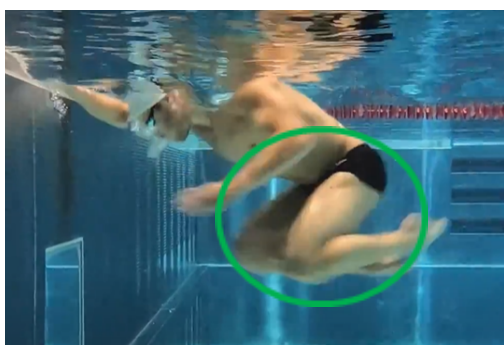


OBRÁTKOVÝ ÚSEK - 5 M PO OBRÁTCE (5 OUT)

- pozice nohou na stěně
- odraz pouze ze špiček a z nedostatečně pokrčených kolen
- pozice těla po odraze
- okamžik zahájení 1. kopu pod hladinou

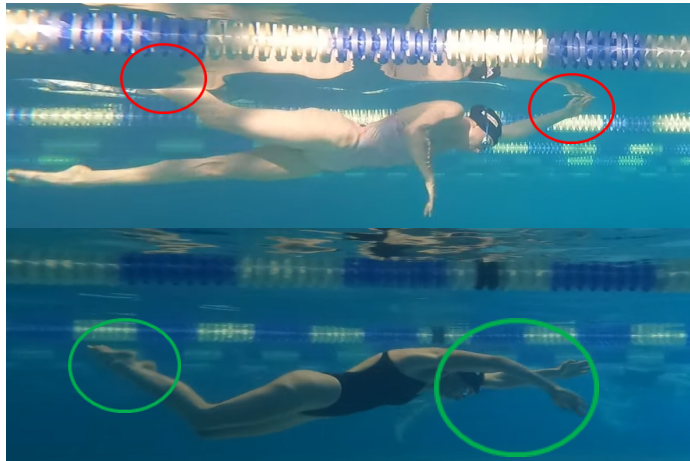
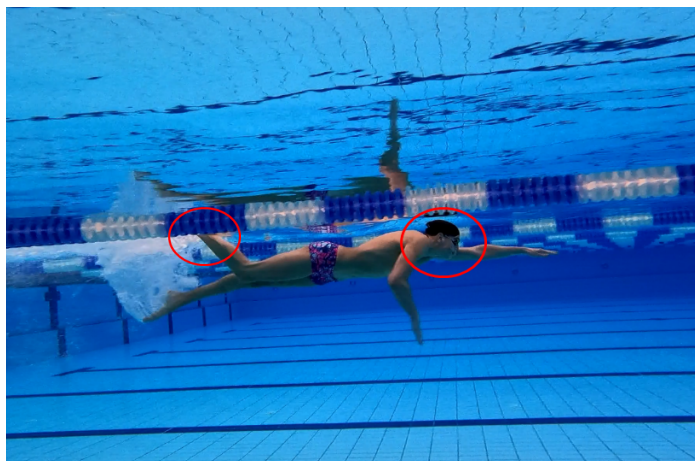
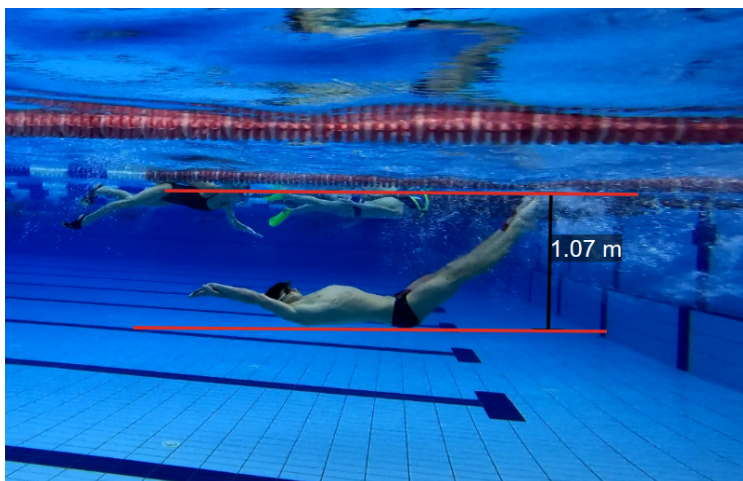


Analýza Plavecké Techniky

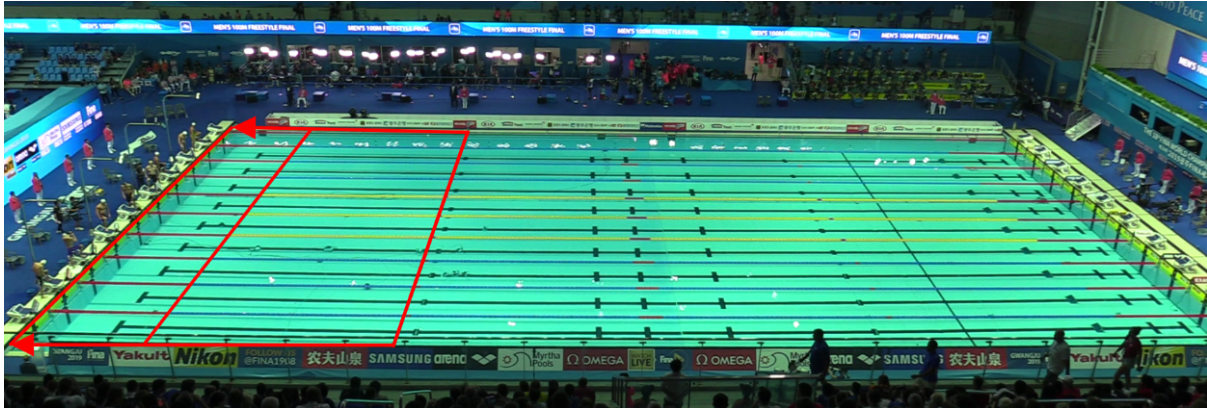


OBRÁTKOVÝ ÚSEK - 10/15 M PO OBRÁTCE (10/15 OUT)

- pozice těla během fáze pod hladinou
- optimální počet a rozsah (amplituda) kopů pod hladinou
- moment a způsob prohnutí hladiny (breakout)
- nádech během 1. záběrového cyklu po protnutí hladiny (breakout)



FINIŠ



TIPY NA SPRÁVNÉ PROVEDENÍ FINIŠE

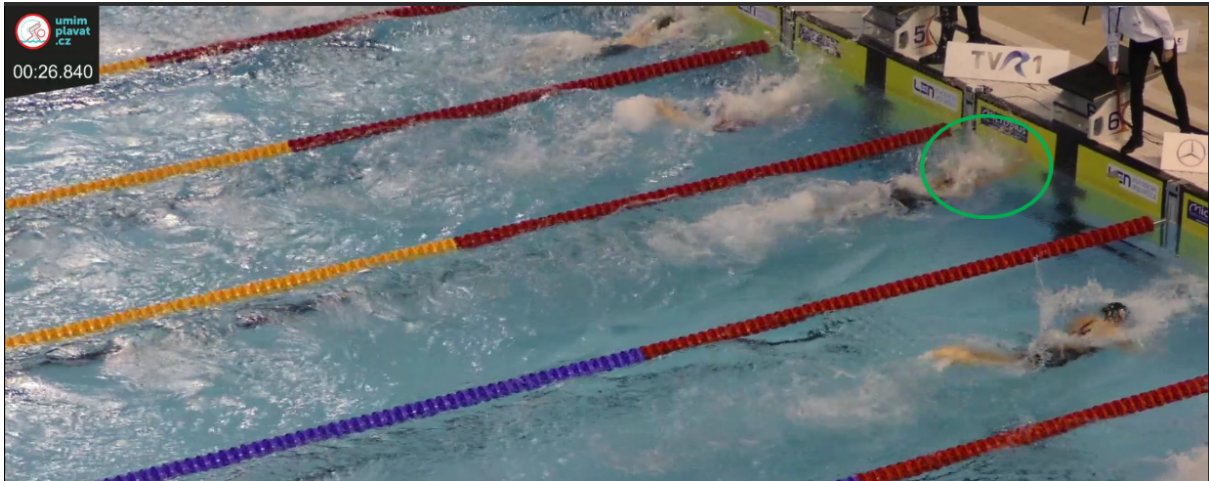
- posledních 5-15 m před dohmatem nedýchat (kraul, motýlek)
- zpevněná poloha těla při dohmatu
- hlava je při dohmatu v prodloužení páteře a pohled směřuje dolů
- nepřestávat kopat dokud plavec nedohmátne na stěnu
- dohmat lze provést na boku (rychlejší varianta)

FINIŠ - NEDÝCHAT

Dressel 100 M: posledních 15 m bez nádechu
Popovici 100 VZ: posledních 5 m bez nádechu

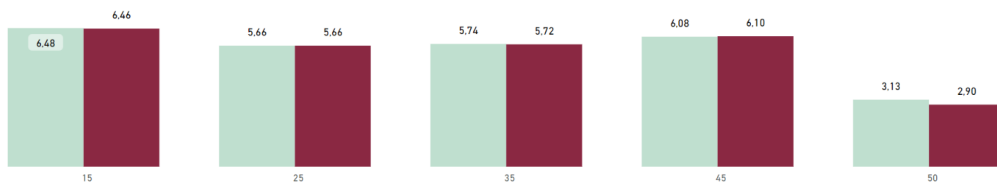
FINIŠ - POZICE HLAVY

Lilian Slušná 50 M (semi) vs 50 M (final)

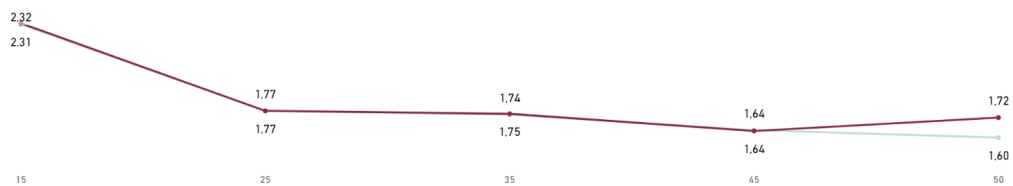


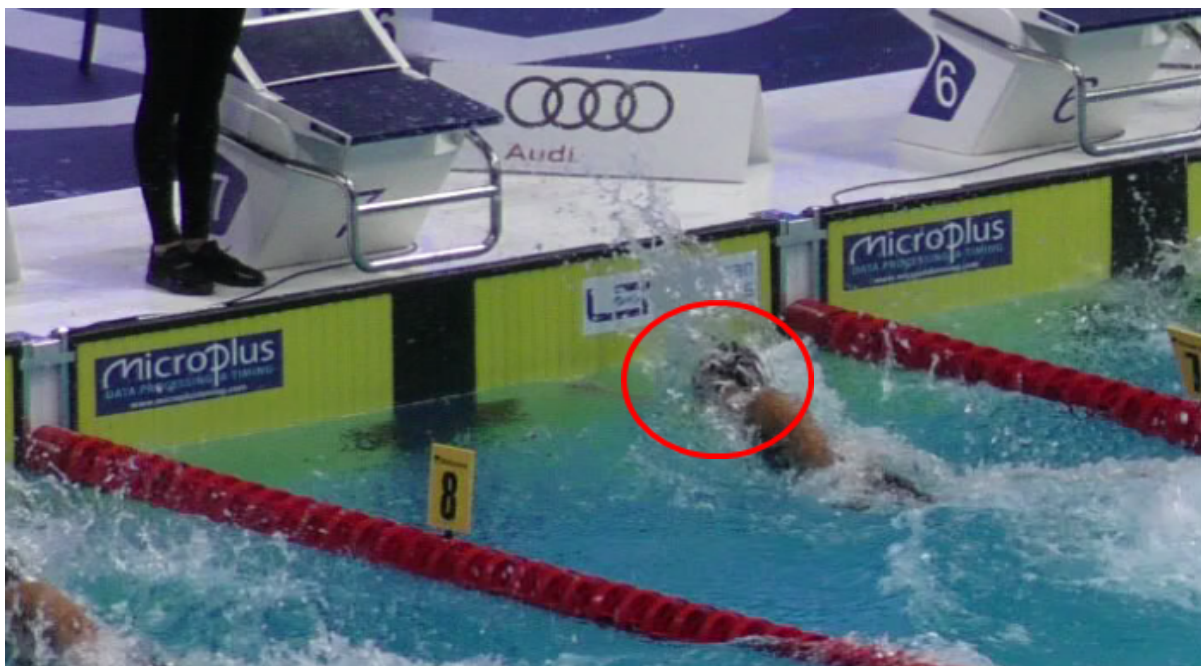
Legend ● Slušná Lillian, Final - 50 Bf (50 m) [EJCH Otopení 2022] ● Slušná Lillian, Semifinal - 50 Bf (50 m) [EJCH Otopení 2022]

Time per section



Speed per sections





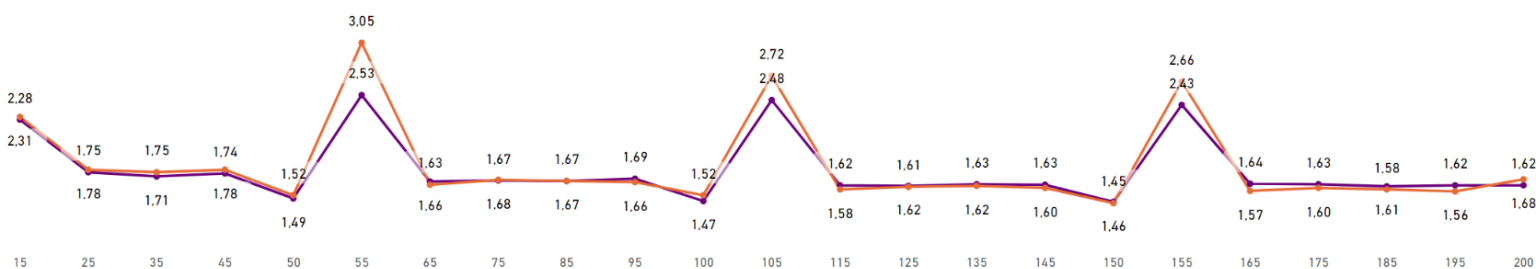
Barbora Seemanová (ME Budapest 2021) - 50 VZ semifinále: dohmat se zdviženou hlavou



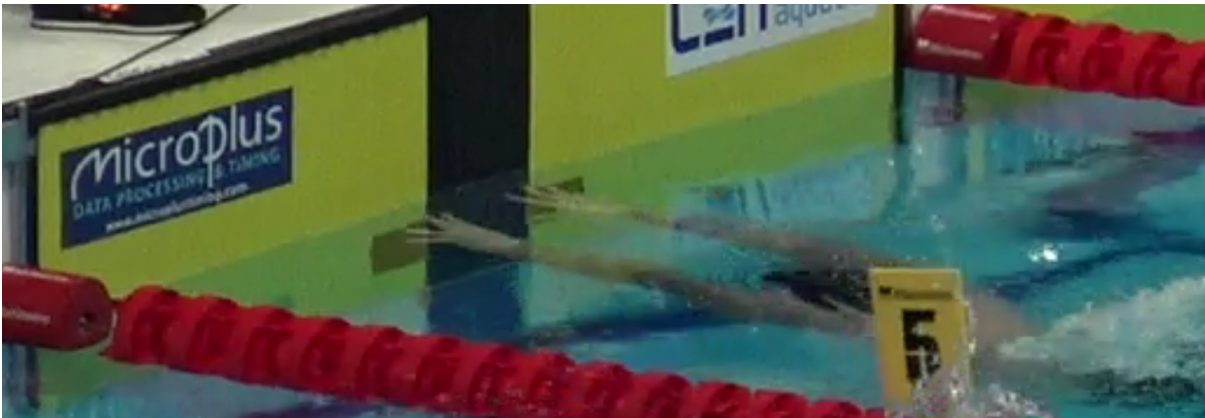
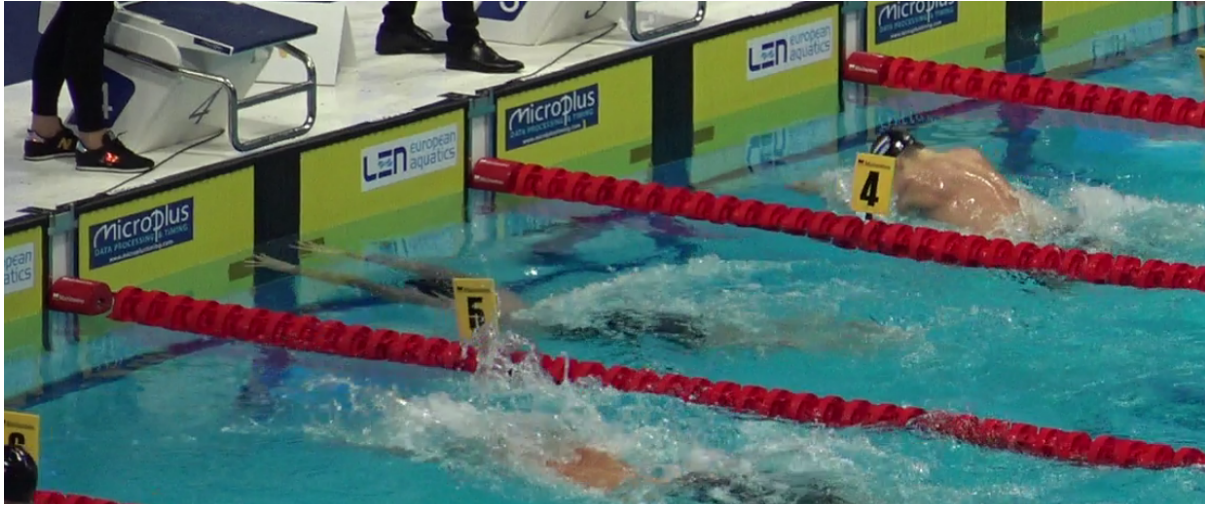
Seemanová vs. Pellegrini (ME Budapest 2021) - 200 VZ finále: dohmat se sklopenou hlavou vs. dohmat se zdviženou hlavou (rozdíl ve výsledném čase 0,02 s)

Legend ● Pellegrini Federica, Final - 200 Fr (50 m) [ECH Budapešť 2021] ● Seemanová Barbora, Final - 200 Fr (50 m) [ECH Budapešť 2021]

Speed per sections



FINIŠ - DOSTATEČNÝ TLAK NA STĚNU

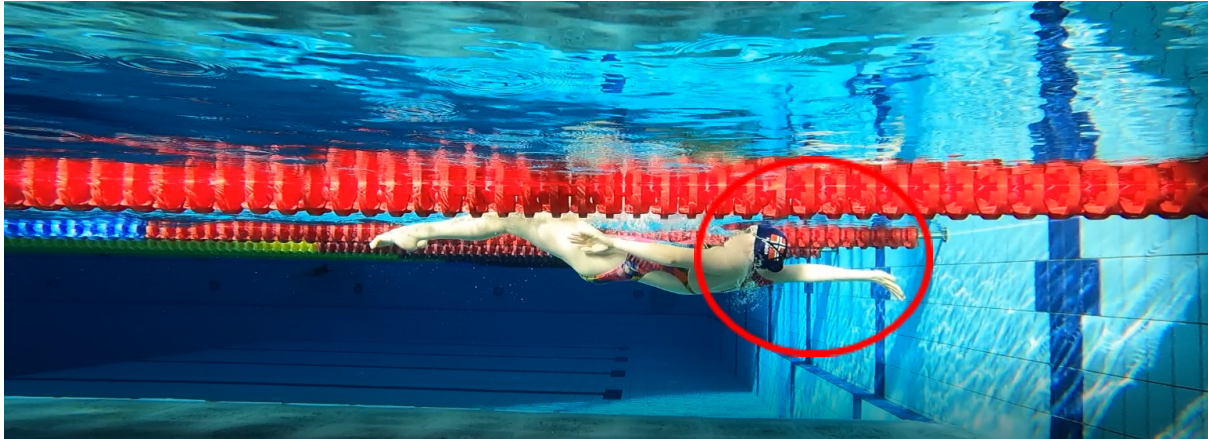


Adam Peaty (ME Budapest 2021) - silný dohmat konečky prstů se sklopenou hlavou

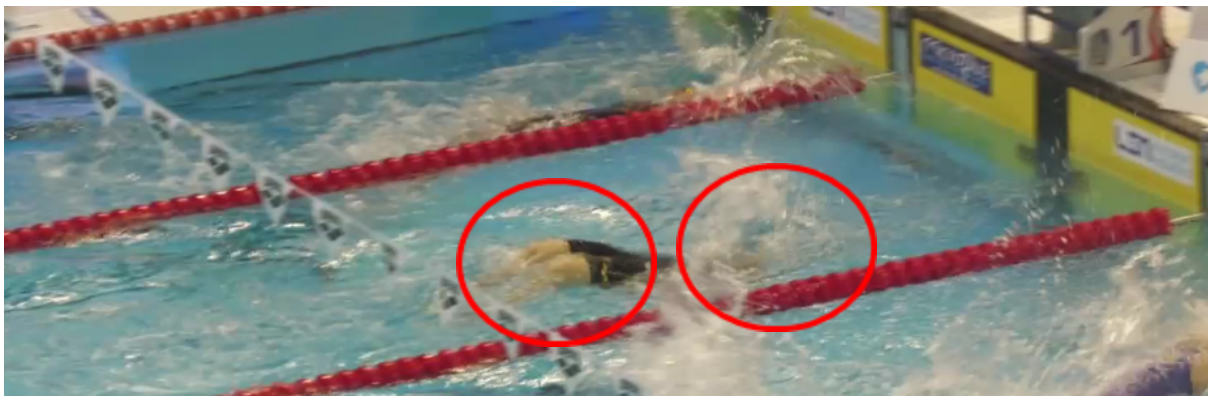


Michael Phelps vs. Milorad Cavic (OH Peking 2008) - pozice hlavy (rozdíl 0,01 s)

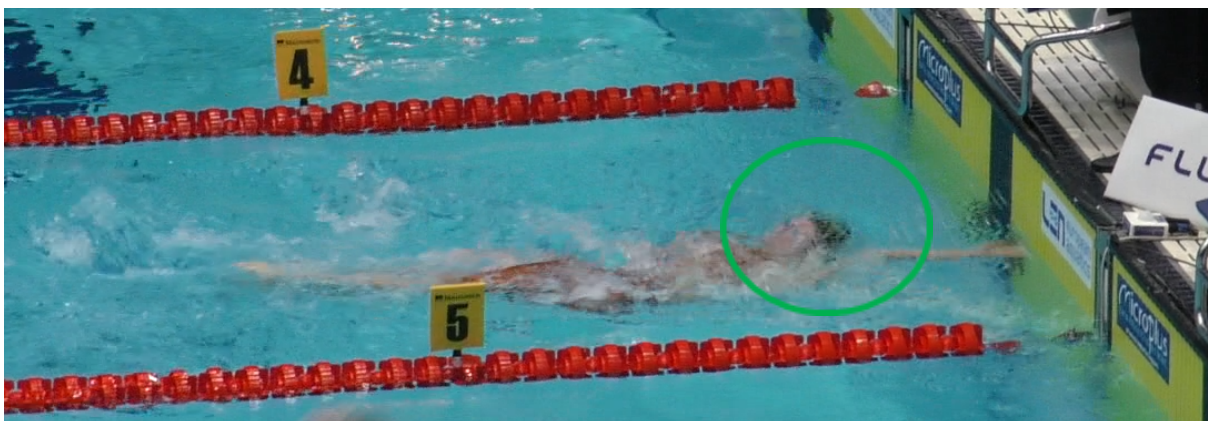
FINIŠ - DOHMAT PO CO NEJKRATŠÍ DRÁŽE



Tereza Ožvaldová - dohmat (VT Šamorín 09.02.2022)



Tereza Ožvaldová - dohmat (MEJ Otopeni 2022) (dohmat hluboko a daleko od stěny)



Kira Toussaint finále 200 znak ženy (ME Kazan 2021) (dohmat po co nejkratší dráze bez záběru do hloubky)