

Pace	Set
REC	<ul style="list-style-type: none"> • 200 swim • 100 kick • 8 x 25 @ r=10 <ul style="list-style-type: none"> ◦ 25 drill/25 swim
EN-1 to EN-3	<p><u>2 x thru:</u></p> <ul style="list-style-type: none"> • 1 x 400 pull @ 6:30 or r=30 <ul style="list-style-type: none"> ◦ moderate pace • 2 x 200 pull or swim @ 3:20 or r=20 <ul style="list-style-type: none"> ◦ faster pace than 400 • 4 x 100 swim @ 1:40 or r=10 <ul style="list-style-type: none"> ◦ descend times 1-4 • extra 30 seconds rest
REC	100 swim

Total = 3000

Pace Chart					
Pace	Effort	Perceived Exertion/Target HR	Pace	Effort	Perceived Exertion/Target HR
REC	Very Light	7-12/90-120	EN-3	Hard	17/175-185
EN-1	Fairly Light	13-14/120-150	SP-1	Very Hard	18/185-max
EN-2	Somewhat Hard	15-16/150-175	SP-2/3	Extremely Hard	19-20/max

Pace	Set
REC	500 choice
EN-2	<p><u>2 x thru:</u></p> <ul style="list-style-type: none"> • 4 x 25 fly kick @ 45 or r=10 <ul style="list-style-type: none"> ◦ 1st 12.5 yards/meters underwater • 2 x 50 kick @ 1:30 or r=15 <ul style="list-style-type: none"> ◦ choice of stroke
EN-1 to EN-3	<p><u>2 x thru:</u></p> <ul style="list-style-type: none"> • 4 x 50 pull @ 55 or r=10 <ul style="list-style-type: none"> ◦ breathe 3/5 by 25's • 4 x 50 drill @ 1:05 or r=15 <ul style="list-style-type: none"> ◦ IM order • 4 x 75 swim (50 "DPS"/25 fast) @ 1:45 or r=20 <ul style="list-style-type: none"> ◦ #1: 50 fly/25 back ◦ #2: 50 back/25 breast ◦ #3: 50 breast/25 free ◦ #4: 50 free/25 fly • extra 60 seconds between rounds
REC	200 choice

Total = 2500

Pace Chart					
Pace	Effort	Perceived Exertion/Target HR	Pace	Effort	Perceived Exertion/Target HR
REC	Very Light	7-12/90-120	EN-3	Hard	17/175-185
EN-1	Fairly Light	13-14/120-150	SP-1	Very Hard	18/185-max
EN-2	Somewhat Hard	15-16/150-175	SP-2/3	Extremely Hard	19-20/max

Pace	Set
REC	<ul style="list-style-type: none"> • 400 swim • 200 kick
EN-1 to EN-2	<ul style="list-style-type: none"> • 1 x 400 pull @ 7:00 or r=60 <ul style="list-style-type: none"> ◦ breathe 3/3/5/3 by 100's • 4 x 100 swim @ 1:45 or r=15 <ul style="list-style-type: none"> ◦ descend times 1-4 • 1 x 300 pull @ 5:15 or r=45 <ul style="list-style-type: none"> ◦ breathe 3/5/3 by 100's • 4 x 75 swim @ 1:30 or r=15 <ul style="list-style-type: none"> ◦ descend times 1-4 • 1 x 200 pull @ 3:30 or r=30 <ul style="list-style-type: none"> ◦ breathe 3/5/7/5 by 50's • 4 x 50 swim @ 1:00 or r=15 <ul style="list-style-type: none"> ◦ descend times 1-4 • 1 x 100 pull @ 1:45 or r=15 <ul style="list-style-type: none"> ◦ breathe 3/5/7/5 by 25's • 4 x 25 swim @ 30 or r=10 <ul style="list-style-type: none"> ◦ descend times 1-4
EN-1/EN-3	12 x 25 swim @ 30 or r=10 <ul style="list-style-type: none"> • 25 easy/25 fast
REC	100 choice

Total = 3000

Pace Chart					
Pace	Effort	Perceived Exertion/Target HR	Pace	Effort	Perceived Exertion/Target HR
REC	Very Light	7-12/90-120	EN-3	Hard	17/175-185
EN-1	Fairly Light	13-14/120-150	SP-1	Very Hard	18/185-max
EN-2	Somewhat Hard	15-16/150-175	SP-2/3	Extremely Hard	19-20/max

Topic: Drag Forces - Part One (Reprinted from May, 2013)

Water is 1000 x denser than air. Swimmers must push streams of water molecules out of their way to open holes in the water for their bodies to pass through. As they do this swimmers encounter "resistive drag." Resistive drag holds swimmers back and is directly proportional to the turbulence created.

When smooth water is interrupted turbulence results. Water that is less turbulent creates less resistance for swimmers; conversely, turbulent water creates more resistance. One sign of turbulence is the presence of air bubbles.

How to minimize drag:

Minimize the space you take up in the water (i.e., improve horizontal and lateral body alignment).

Tips to improve horizontal alignment:

- Practice floating – float in a streamlined position on front or back, notice the longer your body stretches the more horizontal your body becomes.
- Keep your kick about 8" in diameter; don't kick deeper, higher, or wider than necessary.
- Imagine swimming *through* the water, not over it.

Tips to improve lateral alignment:

- Rotate your entire body as one unit, as if you were swimming with a skewer down the center of your body.
- Practice swimming as if you're in a 1-foot diameter tube.

Pace Chart

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REC	Very Light	7-12/90-120	EN-3	Hard	17/175-185
EN-1	Fairly Light	13-14/120-150	SP-1	Very Hard	18/185-max
EN-2	Somewhat Hard	15-16/150-175	SP-2/3	Extremely Hard	19-20/max

Pace	Set
REC to EN-1	<ul style="list-style-type: none"> • 400 swim • 12 x 25 @ r=10 <ul style="list-style-type: none"> ◦ 25 kick/25 swim • 12 x 25 pull @ 30 or r=5 <ul style="list-style-type: none"> ◦ breathe 3/5 by 25's
EN-1 to SP-1	<p><u>4 x thru (add fins for rounds 3 and 4):</u></p> <ul style="list-style-type: none"> • 2 x 75 @ 1:30 or r=15 <ul style="list-style-type: none"> ◦ 50 drill/25 build • 2 x 50 swim @ 1:10 or r=20 <ul style="list-style-type: none"> ◦ 25 fast/25 "DPS" • 2 x 25 swim @ 45 or r=20 <ul style="list-style-type: none"> ◦ all fast! • extra 60 seconds rest
EN-1 to REC	<p>12 x 25 @ r=5</p> <ul style="list-style-type: none"> • 25 scull w/ flutter kick/25 swim

Total = 2500

Pace Chart					
Pace	Effort	Perceived Exertion/Target HR	Pace	Effort	Perceived Exertion/Target HR
REC	Very Light	7-12/90-120	EN-3	Hard	17/175-185
EN-1	Fairly Light	13-14/120-150	SP-1	Very Hard	18/185-max
EN-2	Somewhat Hard	15-16/150-175	SP-2/3	Extremely Hard	19-20/max