

**Supplementary Table S1: Change in fatty acid levels in RBC membranes.** Fatty acid content is expressed as a percent of total fatty acids. n-3= omega-3; , n-6= omega 6; LA= linoleic acid; AA= arachidonic acid; EPA= Eicosapentaenoic acid, DHA= docosahexaenoic acid

<b>Fatty Acids</b>	<b>Western Diet</b>	<b>Fish Oil Diet</b>	<b>P value</b>
	post-intervention minus pre-intervention (mean ± SEM )	post-intervention minus pre-intervention (mean ± SEM )	
<b>Palmitic</b>	-0.44 ± 0.22	-0.12 ± 0.23	0.32
<b>Palmitoleic</b>	-0.13 ± 0.05	-0.04 ± 0.02	0.11
<b>Stearic</b>	0.22 ± 0.24	-0.40 ± 0.27	0.1
<b>Oleic</b>	-0.53 ± 0.28	-0.83 ± 0.32	0.5
<b>LA (18:2, n-6)</b>	0.67 ± 0.18	-1.59 ± 0.16	<b>&lt;0.001</b>
<b>α-linolenic (n-3)</b>	-0.005 ± 0.03	-0.05 ± 0.04	0.33
<b>Eicosadienoic (n-6)</b>	0.05 ± 0.03	-0.02 ± 0.03	0.11
<b>AA (20:4, n-6)</b>	0.23 ± 0.14	-0.62 ± 0.11	<b>&lt;0.001</b>
<b>EPA (20:5, n-3)</b>	-0.11 ± 0.03	0.98 ± 0.07	<b>&lt;0.001</b>
<b>Docosapentaenoic ( n-3)</b>	-0.04 ± 0.02	0.06 ± 0.07	0.19
<b>DHA (22:6, n-3)</b>	0.10 ± 0.14	2.62 ± 0.19	<b>&lt;0.001</b>
<b>Total n-6</b>	0.90 ± 0.22	-2.21 ± 0.17	<b>&lt;0.001</b>
<b>Total n-3</b>	-0.06 ± 0.17	3.6 ± 0.24	<b>&lt;0.001</b>
<b>n-6/n-3</b>	0.14 ± 0.08	-1.16 ± 0.13	<b>&lt;0.001</b>