Supplemental information provided as PDF. Fig S1; flowchart describing recruited subjects and reasons for drops or exclusion from protocol. Fig S2; H&E staining of Sc AT before and after ω-3PUFA supplementation. Fig S3; Quantification of macrophage counts before and after ω-3PUFA supplementation. Table S1; primer sequences used for RT-PCR gene analysis. Table S2 displays the results of independent lab analysis of the Nature Made fish oil used in our study.
Figure S1. Participant flow chart.

Screened (N=28)

Screen fails (n=4) for:
Anemia (n=1)
OGTT diagnostic for diabetes (n=2)
Excessive weight loss (n=1)

Baseline (N=13)

Unable to complete baseline studies (n=11):
Inability to adhere to study schedule (n=8)
Inability to comply with fat biopsy procedure (n=3)

3 months post-FO follow up (N=13)
TABLE S1  Primer sequences for Sc AT qRT-PCR

| Genes | Primer sequences (5' -> 3') |
|-------|-----------------------------|
| ACTB  | Forward Primer: AAACCTGGAAACGGTGAGGTG  
       | Reverse Primer: AGAGAAGTGGGGGTGGGCTTTTT |
| ARG1  | Forward Primer: GTGGAAAACCTTTGGCATGGGACAAC  
       | Reverse Primer: AATCCTGGACACATCGGGAATC |
| ARG2  | Forward Primer: CGCGAGTGCATTCCATCCT  
       | Reverse Primer: TCCAAAGTCTTTTCTAGGGCAG |
| iNOS  | Forward Primer: AAGGACAAGCCCTACCCCTC  
       | Reverse Primer: CTCACTCCCGTCGATTT |
| CD68  | Forward Primer: GCTACATGGCGGGTGAGTACAA  
       | Reverse Primer: ATGATGAGAGGCAGCAAGATGGA |
| CD163 | Forward Primer: CGGCTGCCTCCACCTCTAAGT  
       | Reverse Primer: ATGAAGATGCTGGGCAGTGAC |
| CD206 | Forward Primer: TCTGGACACCATCGGAAATT  
       | Reverse Primer: CACAAGCGCTGCTGGGAT |
| MCP-1 | Forward Primer: AGTTCTGCGCCGCTTCTGTTG  
       | Reverse Primer: CATCTGGCTGAGGAGGCC |
| ADIPOQ| Forward Primer: TGCTGGGAGAGCTTTGTCTACTG  
       | Reverse Primer: TACCTCCGGTTCACCAGATGTC |
| LEP   | Forward Primer: CACACGCAGTCAGTCTCCTC  
       | Reverse Primer: AGTTTCCCAAGGCTCAGG |
| PPARG | Forward Primer: GCCGAGAAGGAGAAGCTGTT  
       | Reverse Primer: CTCGGCTCTTGTGCTGAG |
| CEBPA | Forward Primer: CCATGCCGGGAGAATCTCAA  
       | Reverse Primer: ATGTCGATGGGACGTCG |
| FABP4 | Forward Primer: ACTGGGCCAGGAATTTGACG  
       | Reverse Primer: CTCGTCGAGAGCCGAGG |
| FASN  | Forward Primer: TCTGGGAGGAGCTTGCTGTTG  
       | Reverse Primer: CCCTCCACAGGCTGCTCATA |
| APOE  | Forward Primer: GTTGCTGTCACATTCCCTG  
       | Reverse Primer: GCAGATATCCAAAAGCCGAC |
| APOC1 | Forward Primer: GAGGAGTACATGGGGAACCTC  
       | Reverse Primer: GGCTGATGAGTTCCGCCAG |
| MMP9  | Forward Primer: TTGACCGCTATGGTTACACTG  
       | Reverse Primer: GCCAGGGACAGTGCTT |
| MMP7  | Forward Primer: GATGGACAGTCAGTGGGAAACA  
       | Reverse Primer: CTATGATGCGGAGTTAAACAT |
| MS4A6E| Forward Primer: TTCTCCTGTCTGGCAACCCT  
       | Reverse Primer: GGCTTTGGCTCTATGGCAGT |
| Analyte                                    | Units   | Spec. | Results |
|-------------------------------------------|---------|-------|---------|
| Total Fatty Acids                         | mg/serving | NA    | 1330    |
| Total Saturated Fatty Acids               | mg/serving | NA    | 414     |
| Total Mono-unsaturated Fatty Acids        | mg/serving | NA    | 332     |
| Total Poly-unsaturated Fatty Acids        | mg/serving | NA    | 588     |
| Total Omega-3 Fatty Acids                 | mg/serving | NA    | 533     |
| Total Omega-6 Fatty Acids                 | mg/serving | NA    | 55.3    |
| Total Trans Fatty Acids                   | mg/serving | NA    | 5.96    |
| Total EPA & DHA Fatty Acids               | mg/serving | NLT 500 | 466    |
| Total Omega-3 Fatty Acids (non EPA/DHA)   | mg/serving | NLT 100 | 67     |
**Fig S2.** H&E staining of Sc AT before and after ω-3PUFA supplementation.
Fig S3. Quantification of macrophage counts before and after ω-3PUFA supplementation.