Supplementary Table 1 **"Dynamics of fat absorption and impact of sham feeding on postprandial lipema**
Clinical testing schedule **E. Parks**

Time	Notes/Sensory exposure	Time relative to capsule ingestion (minutes)	Time relative to tasting (minutes)	Blood draw #
0730		**-30**	-45	1
0740		**-20**	-35	2
0750		**-10**	-25	3
0800	"0" time = consume capsules (15' to consume)			
0815	taste	+ 15	0	
0818		**+ 18**	3	4
0820	taste	+ 20	5	
0823		+ **23**	8	5
0825	taste	+ 25	10	
0828		+ **28**	13	6
0830	taste	+ 30	15	
0833		+ **33**	18	7
0835	taste	+ 35	20	
0838		+ **38**	23	8
0840	taste	+ 40	25	
0843		+ **43**	28	9
0845	taste	+ 45	30	
0850	taste	+ 50	35	
0853		+ **53**	38	10
0855	taste	+ 55	40	
0900	taste	+ 60	45	
0903		+ **63**	48	11
0910		+ **70**	55	12
0915	taste	+ 75	60	
0920		+ **80**	65	13
0930	taste	+ 90	75	
0935		+ **95**	80	14
0945	taste	+ 105	90	
0950		+ **110**	95	15
1000	taste	+ 120	100	
1045		+ **165**	150	16
1130		+ **210**	195	17
1230		+ **270**	255	18
1250		+ **290**	275	19
1300	"0" time = start of drink (15' to consume)		285	20
1320		+ **20**	305	21
1340		+ **40**	325	22
1400		+ **60**	345	23
1420		+ **80**	365	24
1430		+ **90**	375	25
1450		+ **110**	395	26
1500		+ **120**	405	27
1530		+ **150**	435	28
1600		+ **180**	465	29
1630		+ **210**	495	30
1700		+ **240**	525	31

Note different time points for blood draws were used for various measurements depending on the rate of change of the metabolite. For instance, time points for insulin measurement were optimized to detect immediate postprandial increases after lunch (see figure 2B), while the temporal pattern of TAG concentrations occurs later in the postprandial state.

Supplementary Table 2. Fatty acid composition of dietary fat sources

	Sources of dietary fat		
Fatty acids (wt %)	Evening meal shake	Capsule Fat	Liquid Lunch
14:0	0.1 ± 0.0	0.1 ± 0.0	7.7 ± 0.9
16:0	14.1 ± 1.2	7.0 ± 2.8	29.7 ± 1.4
16:1, n-7	1.2 ± 0.1	0.1 ± 0.0	1.4 ± 0.1
18:0	5.9 ± 1.1	4.5 ± 0.9	20.8 ± 2.2
18:1, n-9	66.1 ± 2.0	18.7 ± 1.6	34.8 ± 2.6
18:1, n-7	0.4 ± 0.9	ND	0.9 ± 0.0
18:2, n-6	12.3 ± 0.6	67.5 ± 3.2	4.2 ± 0.5
20:1, n-9	0.3 ± 0.0	0.1 ± 0.1	0.2 ± 0.1
20:0	0.1 ± 0.2	0.4 ± 0.0	0.3 ± 0.2
22:0	0.1 ± 0.0	0.7 ± 0.0	0.1 ± 0.1

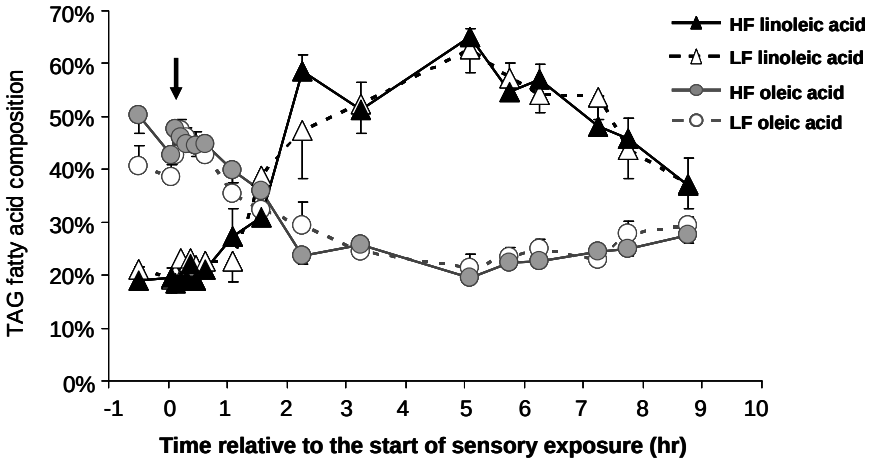
ND: not detectable by GC

The compositions of fatty acids in serum NEFA, lipoprotein-, meal-, and cream cheese were determined using an HP6890 gas chromatograph (Hewlett Packard, Norwalk, CT) as described previously.[1] The HF cream cheese contained 1.55g TAG, with the majority of the TAG-fatty acids as 14:0 (9%), 16:0 (32%), 18:1 (30%), and 18:2 (4%) and 17 mg free fatty acids per 5g aliquot (14:0 (7%), 16:0 (55%), 18:1 (24%), and 8:2 (4%)). The LF cream cheese contained 0.07g TAG and the TAG-fatty acid composition was 14:0 (9%), 16:0 (32%), 18:1 (30%), and 18:2 (5%), and undetectable amounts of free fatty acids per 5g aliquot.

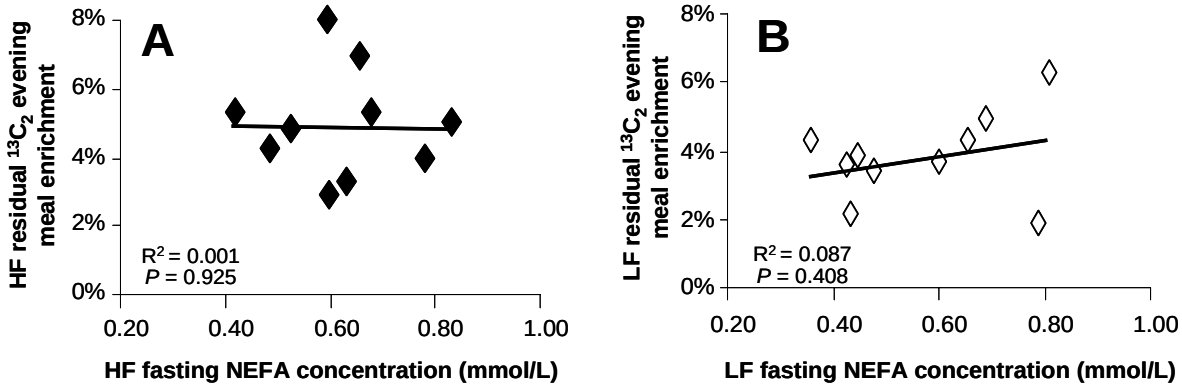
To determine the enrichment of label in lipoprotein-TAG fatty acids and in meal-TAG, lipids were extracted[2] and the enrichment of oleic acid methyl esters determined by GC/MS, performed on an HP 6890 with a Mass Selective Detector HP 5973 using a DB-225 column (30m x 0.25 mm id and 0.25 um film thickness) with helium as the carrier gas. Electron impact was used to selectively monitor ions of oleic acid methyl esters with mass to charge ratios (*m/z*) 296, 297, 298, 302 and 303. Enrichments were calculated in duplicate, using a 5-point standard curve. Comparable ion peak areas between standards and biological samples were achieved by either adjusting the volume injected, diluting, or concentrating the sample.

1. Donnelly KL, Smith CI, Schwarzenberg SJ, Jesserun J, Parks EJ. Sources of fatty acids stored in liver and secreted via lipoproteins in patients with nonalcoholic fatty liver disease. J Clin Invest 2005;115:1343-1351.
2. Folch J, Lees M, Sloane Stanley GH. A simple method for the isolation and purification of total lipids from animal tissues. *J Biol Chem* 1957;**226**:497-509.

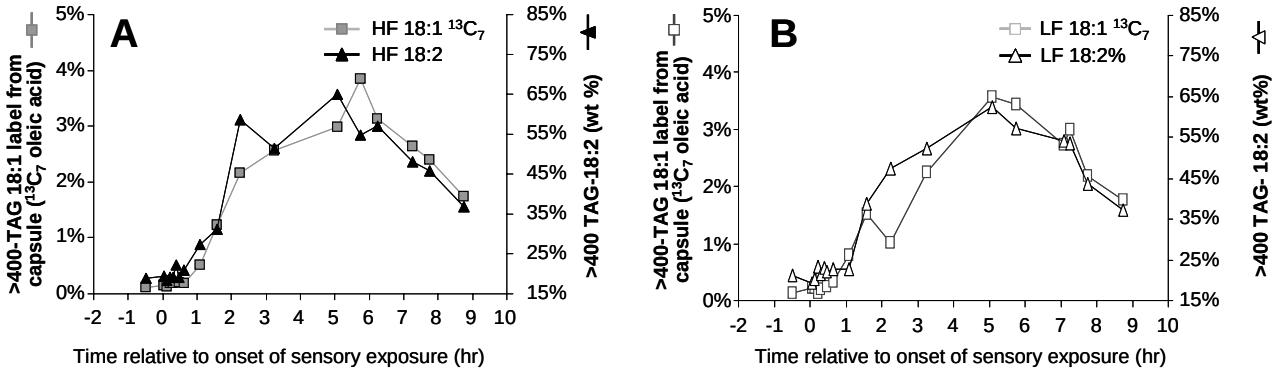
Supplementary Figure 1. Percentage of chylomicron-TAG fatty acids that were linoleic acid (unlabeled) and oleic acid (labeled and unlabeled).



Supplementary Figure 2. Correlations between fasting NEFA concentration and residual evening-meal $^{13}C_2$ enrichment in the morning before sensory exposure



Supplementary Figure 3. Labeling pattern of capsule isotope and fatty acid in >400-TAG



Supplementary figure 3 displays the labeling patterns of capsule isotope entry ($^{13}C_7$ triolein) and unlabelled linoleic acid (18:2, n-6) fed as TAG in capsules during A) the HF test, and B) the LF test. Similar absorption kinetics are reflected by these two parameters early in the test (between 0 and 2 hr). After this time, between 2 and 4 hr, the two curves diverge which could reflect use of the enterocyte lipid droplet (e.g., the droplet would be rich in oleic acid from last night's meal and would dilute the $^{13}C_7$ label if it is used for chylomicron-TAG synthesis).