<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Design Type</th>
<th>Class</th>
<th>Quality (+,-,Ø)</th>
<th>Purpose/Population Sample Size</th>
<th>Regimen</th>
<th>Primary Outcome Measures Results</th>
<th>Author’s Conclusions/Reviewer’s Comments (Italicized)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muesing et al., 1995</td>
<td>RCT, CO</td>
<td>A</td>
<td>+</td>
<td>Purpose: To compare postprandial responses of plasma lipids, in particular, HDL constituents, after administration of PUFA and more sat fat</td>
<td>Run-in Period: 3-d food record</td>
<td>Outcome Measures: Lipids Apolipoproteins</td>
<td>Results: Postprandial change in lipids compared with baseline values: TG: At 2 h: Corn oil: 96% ($P&lt;0.005$) Beef tallow: 48% (NS) $P&lt;0.005$ bet fats At 4 h: Corn oil: 96% ($P&lt;0.05$) Beef tallow: 13% (NS) $P&lt;0.005$ bet fats At 10 h, returned to near fasting levels after ingestion of either fat TC: At 10 h: Beef tallow: 8.1% ($P&lt;0.005$) $P&lt;0.005$ bet diets LDL: At 10 h: Beef tallow: 9.3% ($P=0.003$) HDL at 10 h: Total HDL: Corn oil: 5.0% Beef tallow: 7.1% $P=0.077$ bet fats</td>
</tr>
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<tr>
<td>Zampelas et al., 1994</td>
<td>RCT, CO</td>
<td>A</td>
<td>+</td>
<td>Purpose: To determine effects</td>
<td>Run-in Period: No</td>
<td>TC showed sig overall time-effect ($P=0.0002$) and sig diff bet effects of 2 fats over time ($P=0.0001$)</td>
<td>Postprandial incr in HDL constituents with both fats due almost exclusively to incr in HDL$_3$ fraction</td>
</tr>
</tbody>
</table>

**Regimen**

collected at 0, 2, 4 and 10 h

Washout Period: ~1 wk

**Primary Outcome Measures Results**

Free chol:
- Corn oil: 6.5% (NS)
- Beef tallow: 10.7% ($P<0.005$

Chol ester:
- Corn oil: 9.0% (NS)
- Beef tallow: 13.1% ($P<0.005$

Phospholipid:
- Corn oil: 8.5% ($P<0.005$
- Beef tallow: 7.5% ($P<0.005$

Apolipoprotein A-I:
- Corn oil: 2.1% (NS)
- Beef tallow: 4.9% ($P<0.05$

Lipoprotein (A-I):
- Corn oil: 5.9% (NS)
- Beef tallow: 12.1% ($P<0.005$

Apolipoprotein A-II:
- Corn oil: 7.5% (NS)
- Beef tallow: 10.9% ($P<0.005$

**Outcome Measures:**
TG-rich lipoproteins-TG
<table>
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<tr>
<th>Author/Year</th>
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<tr>
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<td>of test meals of diff FA compositions on postprandial lipoprotein and apolipoprotein metabolism</td>
<td>TX/Duration: Test oils incorporated into rice-based meal and consumed in evening in random order on 3 separate occasions</td>
<td>TG-rich lipoproteins-chol TG Chol Serum lipoprotein A-I and B</td>
<td>“…this study supports the view that n-3 fatty acids reduce postprandial lipemia, since lower postprandial plasma TAG levels were observed following a meal rich in n-3 fatty acids compared with a mixed fatty acid meal (rich in SFA)….The meal rich in n-6 fatty acids had a moderate postprandial TAG-lowering effect, but was not as pronounced as the fish oil meal, and the observed differences did not reach statistical significance”</td>
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<td>Sample: 12 healthy men (11 completed)</td>
<td>Subj consumed standard breakfast, lunch and snacks</td>
<td>Results: Postprandial plasma-TG responses sig reduced following FO meal (365.7 ± 145.7 mmol/L x min) compared with mixed oil meal (552.0 ± 141.7 mmol/L x min) (P&lt;0.05)</td>
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<td>Inclusions: University student; bet 18-49 y of age; habitual dietary fat consumption bet 35-45% of total energy; fasting TC and TG levels within normal range</td>
<td>Dose/Form: 1) Mixed oil – 40 g palm oil:coconut oil:corn oil:olive oil (2:1:0.5:1) 2) Corn oil – 40 g 3) FO – 40 g</td>
<td>NS diff in TG bet corn oil meal and FO or mixed oil meals</td>
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<td>Exclusions: HX of endocrine or liver disease, hyperlipidemia or alcoholism; alcohol consumption &gt;30 units/wk; vigorous exercise &gt;10 h/wk; following therapeutic or specialized diet; use of DS containing FA</td>
<td>Dietary Intake During Study: 4-d food diary prior to 1st meal; asked to follow same dietary pattern for 4 d prior to 2nd and 3rd test meals</td>
<td>TG-rich lipoproteins-chol, plasma chol and serum apolipoprotein A-I and B responses to 3 meals similar</td>
<td></td>
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<td></td>
<td></td>
<td>Dietary Intake Assessment/Frequency: 4-d food diary prior to 1st meal</td>
<td>% change not provided</td>
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<td>Study Visits/Measurements:</td>
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Corn Oil: Postprandial Effects on Blood Lipids, Design Type 1 and Design Type 3 Studies Table
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<th>Results</th>
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<tr>
<td>Schlierf et al., 1979</td>
<td>RCT</td>
<td>A</td>
<td>Purpose: To examine diurnal plasma lipids and lipoproteins following corn oil and palm oil diets</td>
<td></td>
<td>Run-in Period: 24-h diet HX to determine usual intake</td>
<td>Outcome Measures: Lipids, Lipoproteins, Free FA, Lipase activity</td>
<td>Results: NS diurnal change of plasma TC and phospholipids and NS diff bet these lipid variables with 2 dietary fats</td>
<td>Author's Conclusions: &quot;Differences in alimentary lipaemia between different fats as observed in a number of studies could not be shown in the present experiment....The finding, in our experiments, of increased LCAT activity upon ingestion of a corn oil formula but not with (saturated!) palm oil might be explained by corresponding diurnal changes in the substrate fatty acids which have, however, not been measured&quot;</td>
</tr>
</tbody>
</table>

**Primary Outcome Measures**

- Lipids
- Lipoproteins
- Free FA
- Lipase activity

**Results**

- NS diurnal change of plasma TC and phospholipids and NS diff bet these lipid variables with 2 dietary fats
- Alimentary lipaemia characterized by approx doubling of VLDL TG (sig at 1% level), which appeared to peak bet 16 and 20 h
- Slight rise of VLDL sig for corn oil only ($P<0.05$)
- From high fasting level, free FA conc fell by more than 50% after food intake (sig at 1% level) and remained low during study
- NS diff in fasting and postprandial LPL and hepatic TG lipase, but sig ($P<0.05$) positive correlation of postprandial TG at 20 h with both lipases on palm oil

**Author's Conclusions/Reviewer's Comments**

- None
###玉米油：餐后对血脂的影响，设计类型1和设计类型3研究表

<table>
<thead>
<tr>
<th>Author/Year</th>
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<tbody>
<tr>
<td>Tall et al., 1982</td>
<td>Non-randomized trial</td>
<td>C</td>
<td>-</td>
<td>Purpose: To evaluate resulting changes in HDL subclasses following ingestion of fatty meal</td>
<td>6 subj</td>
<td>Study Visits/Measurements: Blood samples collected at 4-h intervals Washout Period: ≥1 wk</td>
<td>In evening, 69-80% of VLDL TG FA and as much as 29-36% of HDL TG FA of dietary origin % change and absolute change not provided</td>
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</tbody>
</table>

**Study Visits/Measurements:**
Blood samples collected at 4-h intervals

**Washout Period:**
≥1 wk

**Primary Outcome Measures:**
Results:
- 5 h after ingestion of corn oil and corn oil + eggs, maximum incr in plasma TG (99±4 mg/dL and 87±11.9, respectively, \( P<0.01 \))
- NS change in plasma chol at any time point
- 6 h after fat ingestion, maximum incr in apolipoprotein A-I (138±9 mg/dL from 118±5 mg/dL; \( P<0.05 \)) and apolipoprotein A-II (51±4.3 mg/dL from 40±2.2 mg/dL; \( P<0.05 \)) after corn oil
- 6 h after fat ingestion, maximum incr in apolipoprotein A-I (146±12 mg/dL from 121±5; \( P<0.05 \)) after corn oil + eggs

**Author’s Conclusions:**
“Our results show that after a fatty meal there are increases in concentration of phospholipids, apoA-I, apoA-11, and cholesterol in HDL. There is a major redistribution of HDL mass into subclasses of lower density, without marked alteration in the composition or size of HDL particles in individual subclasses”

**Reviewer’s Comments:**
None

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Corn Oil: Postprandial Effects on Blood Lipids, Design Type 1 and Design Type 3 Studies Table
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<td></td>
<td>to 8 h after ingestion of fats</td>
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<td>% change not provided</td>
<td></td>
</tr>
</tbody>
</table>

APPENDIXK2CornOilPostprandialEffectsType1&3Tables

Corn Oil: Postprandial Effects on Blood Lipids, Design Type 1 and Design Type 3 Studies Table