Bile acids: The Enigma of Emulsification ---
Emulsifying fat--

Toluene: stained with *Sudan Red* to show the oil layer
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Gift from Prof. Charles Stirling FRS

Gift from Mr. Manfred Lambertz
Emulsifying fat--

Toluene: stained with *Sudan Red* to show the oil layer

*Gift from Prof. Charles Stirling FRS*
"Hydrophobic" surface

"Hydrophilic" surface

--stays at the interface between water and air

Bile acids – and sailing boats??!!
**Bile acids: The journey**

- BA in gut lumen: ~3g
- Fecal loss: ~600 mg daily
- BA daily need: ~12-36g
- BA re-circulation 4-12 cycles / day

Gift from Prof K D Bardhan
Bile acid absorption: In health

- 95-98% absorbed in terminal ileum
- Recirculated up to x 4-12 in 24 hours
Bile acid absorption: In malabsorption

- TI absorption reduced
- Excess unabsorbed BA spills into colon
- Interferes with calcium-mediated water & electrolyte absorption: Net fluid loss

Watery diarrhea
The SeHCAT retention test

23-[^75]Se Selena-25-HomoCholic Acid Taurocholate (SeHCAT) Retention Test

SeHCAT

Test procedure
• Uncollimated gamma camera
• 5 minute AP, PA views and background

Normal retention at day 7 : ≥ 15%

Gift from Dr M Smith