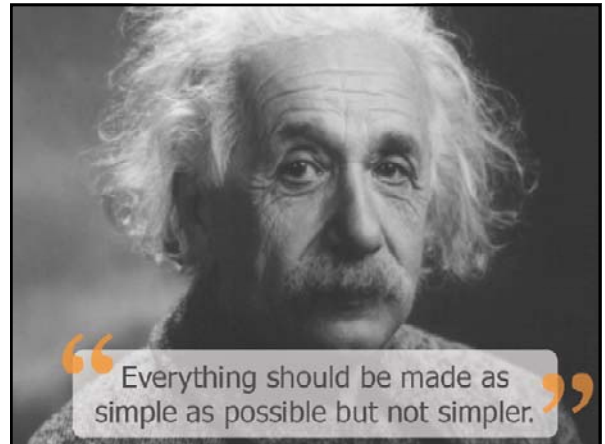
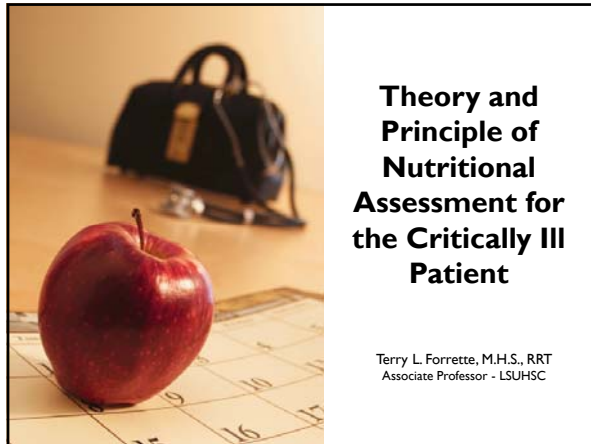


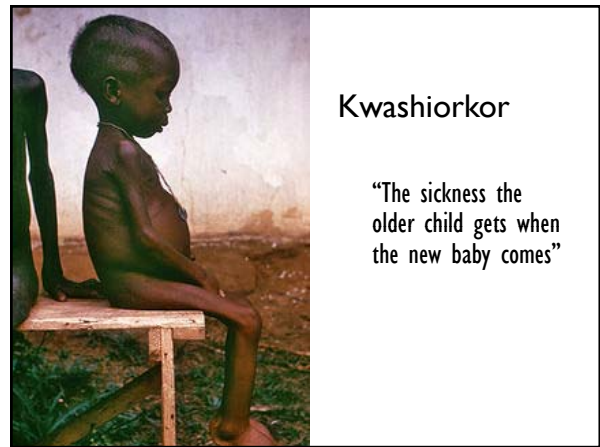
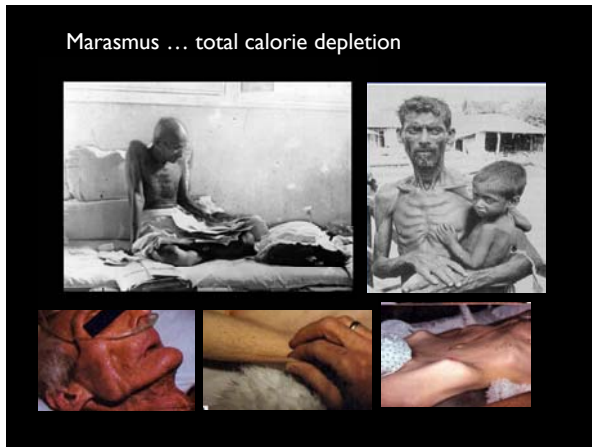
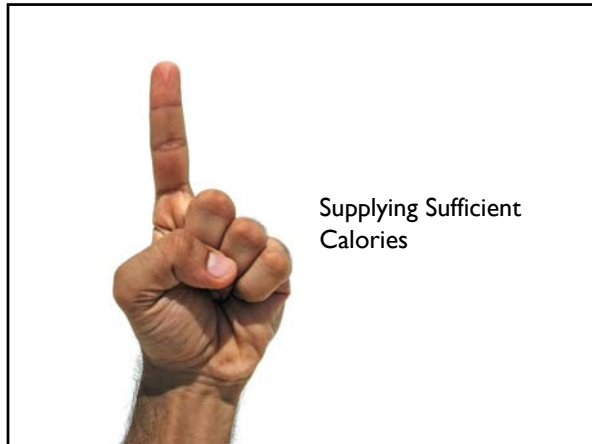
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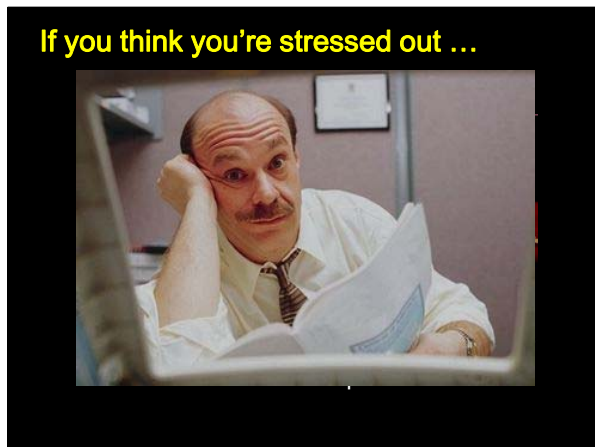
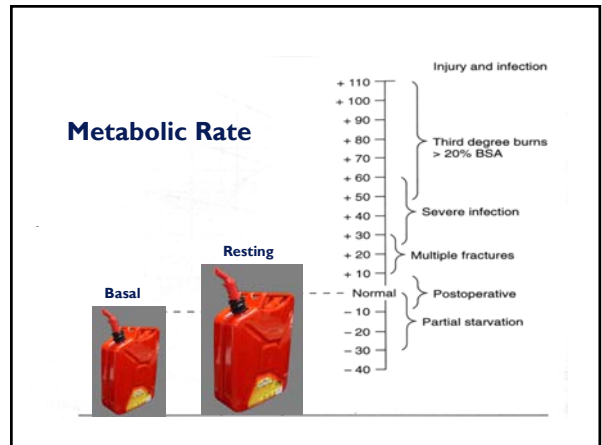
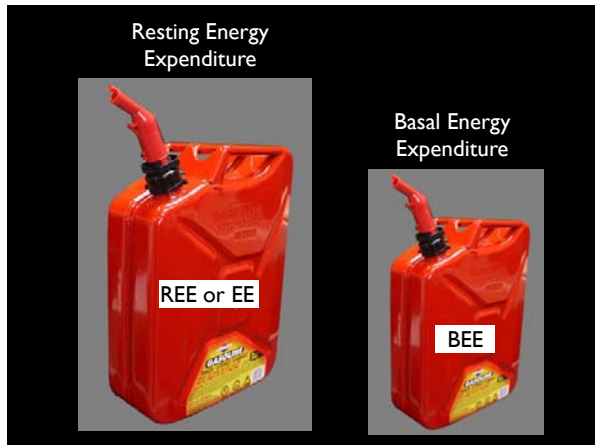
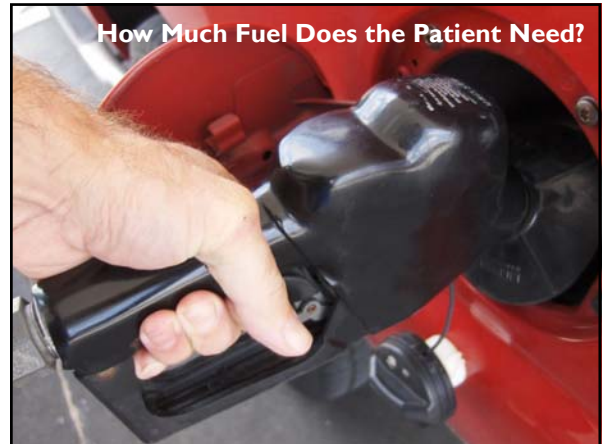
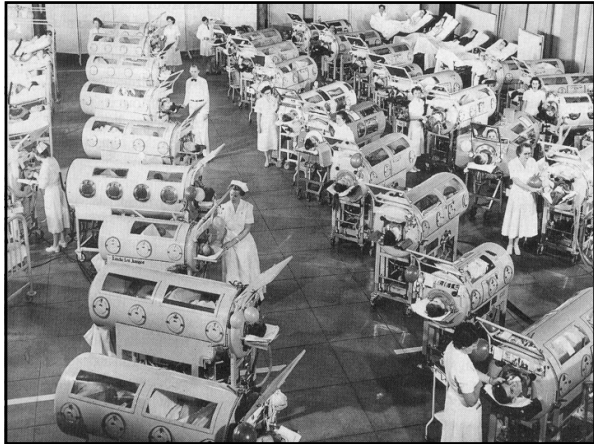
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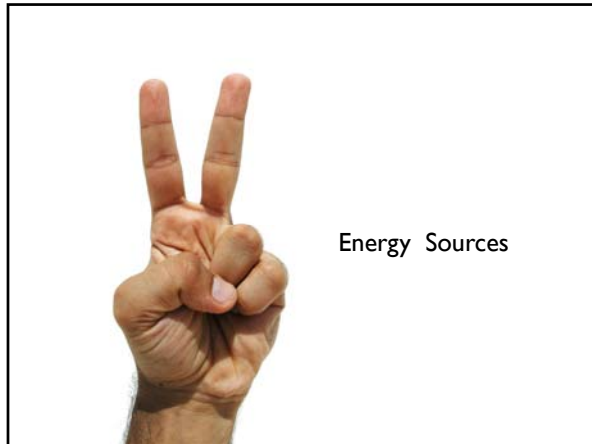
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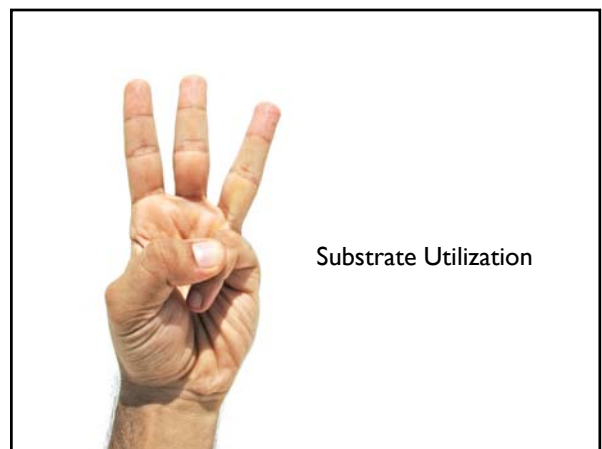
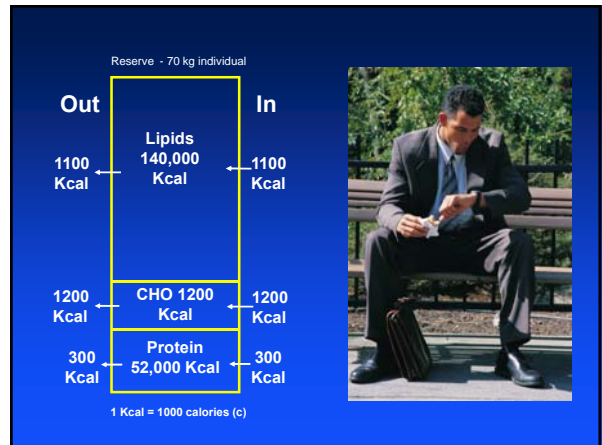


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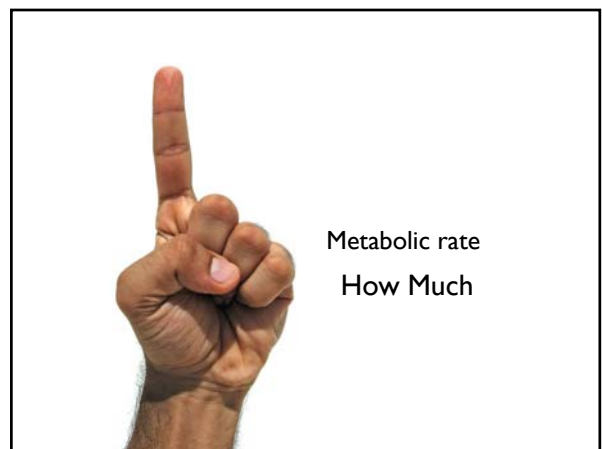
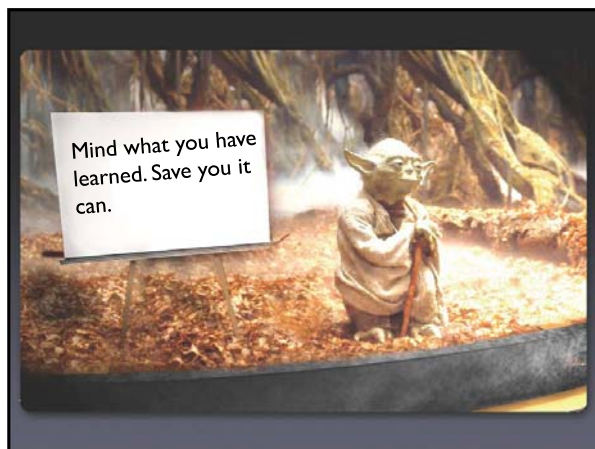
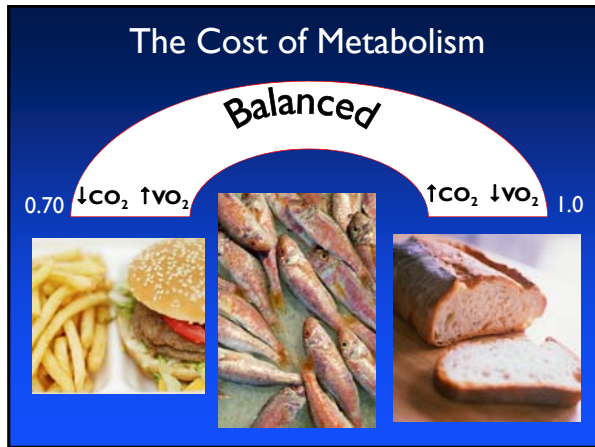
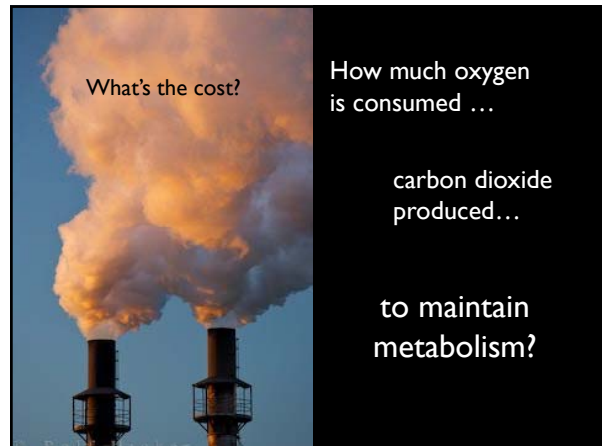
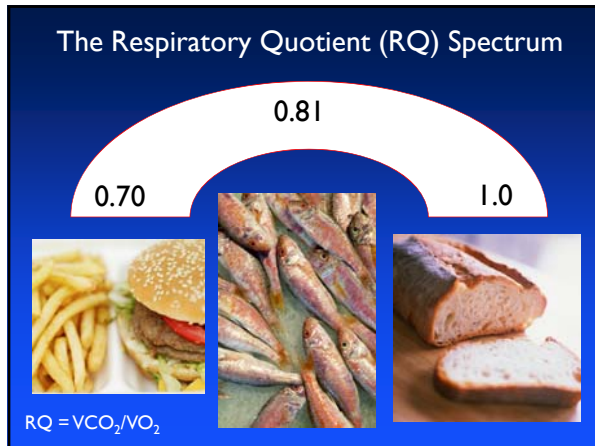


← Fat "Lipids" 120 g/D
 ← Carbohydrates "CHO" 300 g/D
 ← Proteins "Pro" 72 g/D



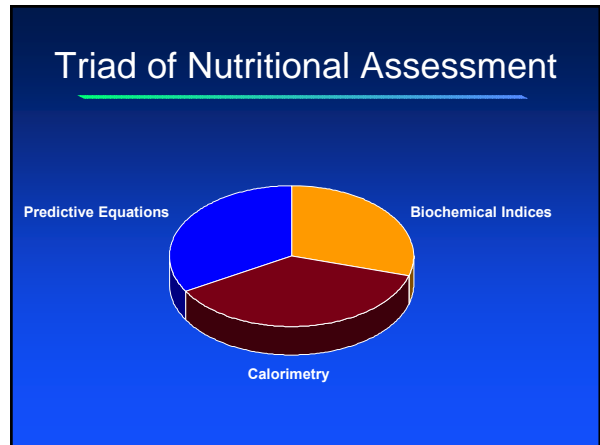
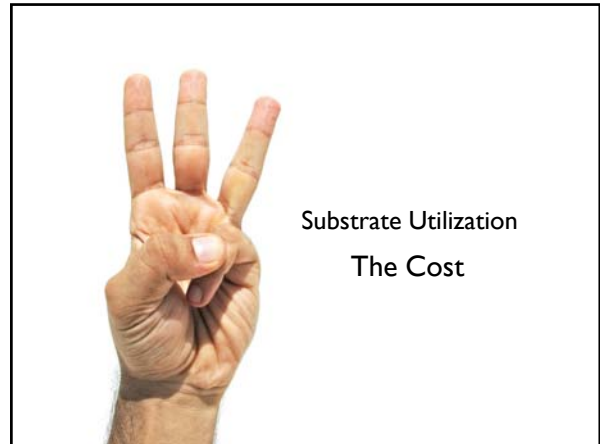
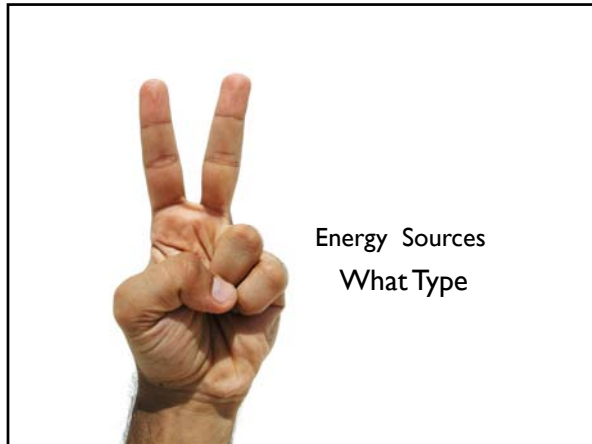
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Harris-Benedict Equation

- Estimates Basal Metabolic Rate - BMR (also referred to as BEE):
 - Male BMR kcal/day = $66.47 + 13.7 (\text{kg}) + 5 (\text{cm}) - 6.76 (\text{yrs})$
 - Female BMR kcal/day = $665.1 + 9.56 (\text{kg}) + 1.85 (\text{cm}) - 4.68 (\text{yrs})$
- Limitations
 - Stress factor must be applied to BMR
 - Predicts BMR with systematic errors of $\geq 15\%$

Measured versus Predicted EE

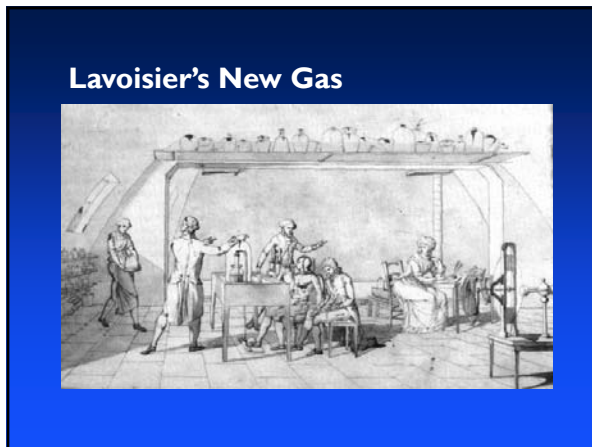
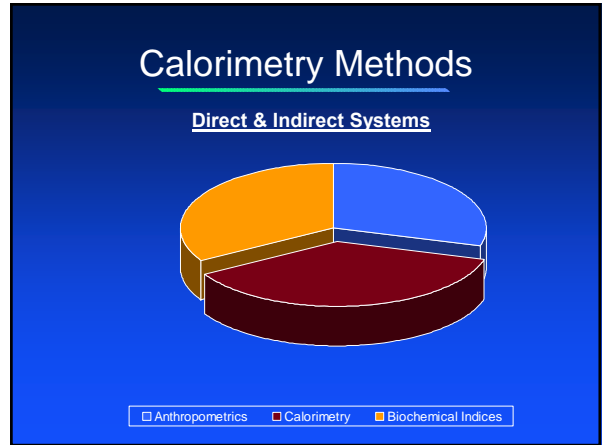
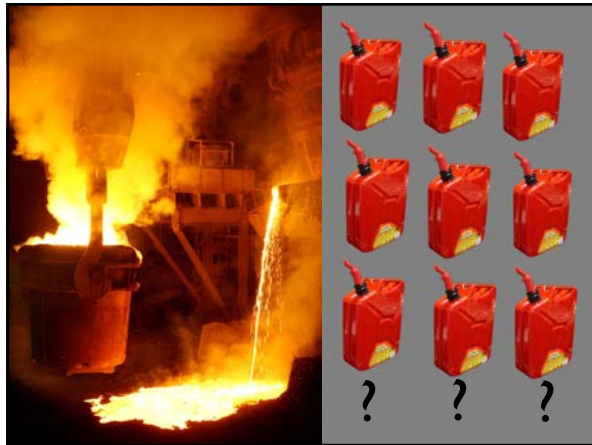
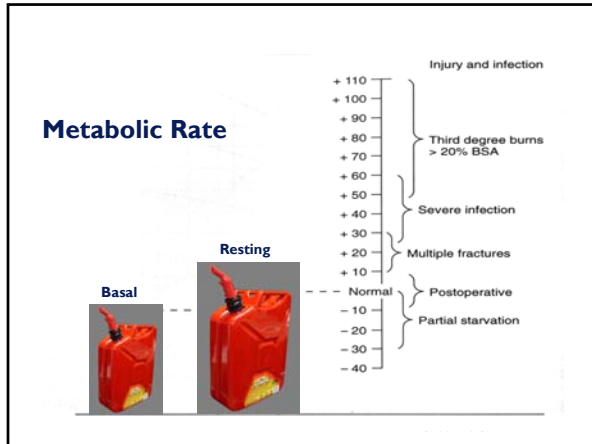
Foster et al., Metabolism 37(5) 467-472, 1988.

Subjects of Same Height and Weight

	A	B	C	D	E
Predicted	1724	1740	1743	1744	1743
Actual	1263	1523	1778	1979	2252

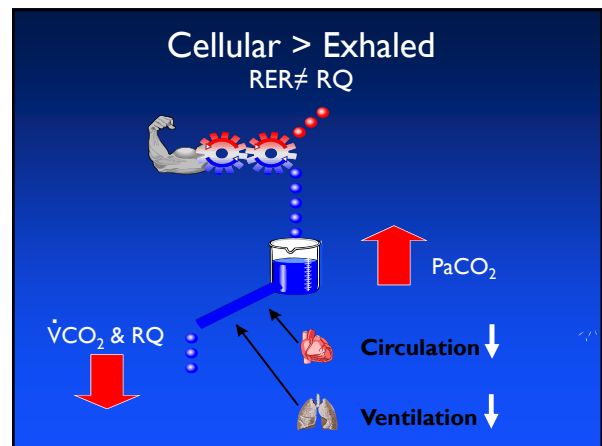
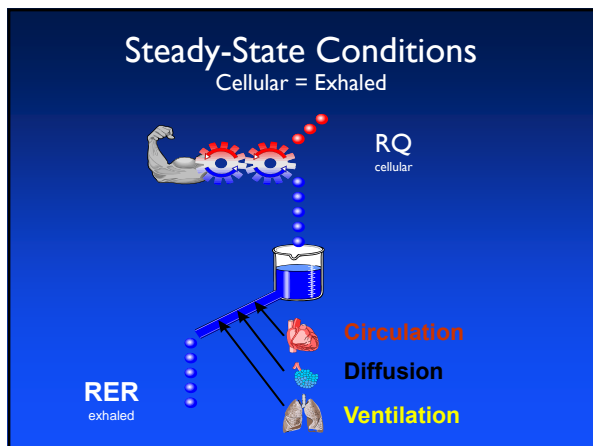
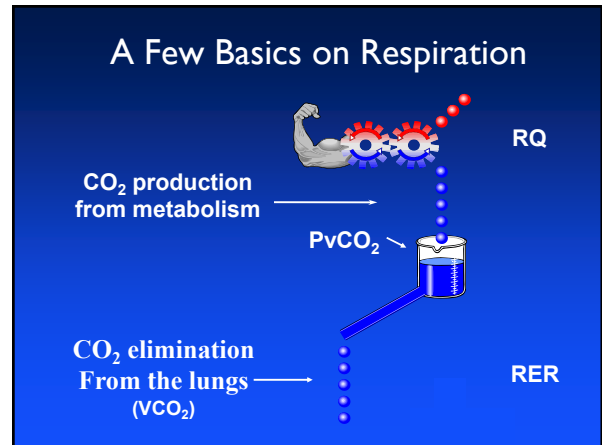
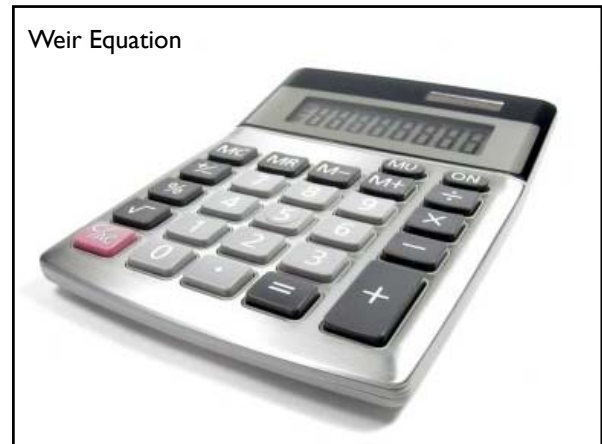
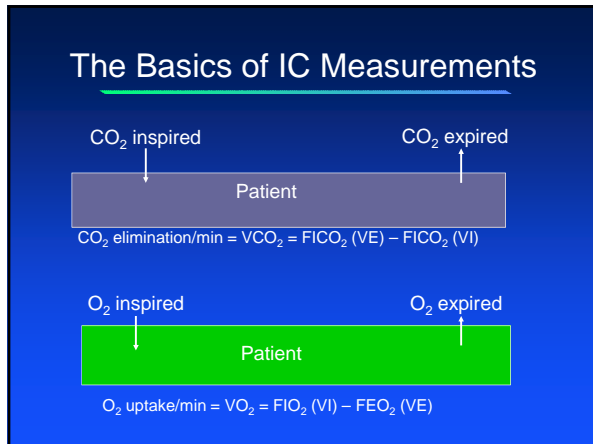
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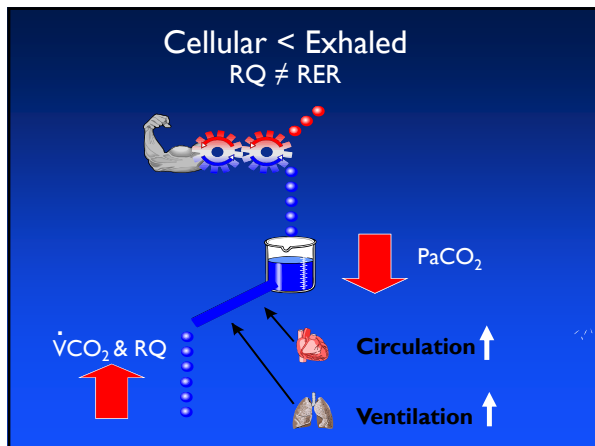
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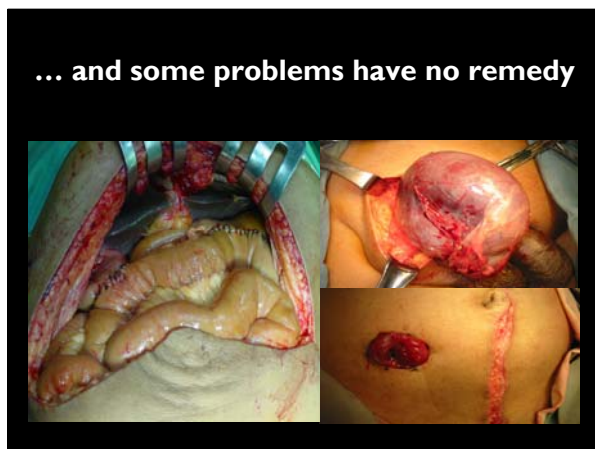
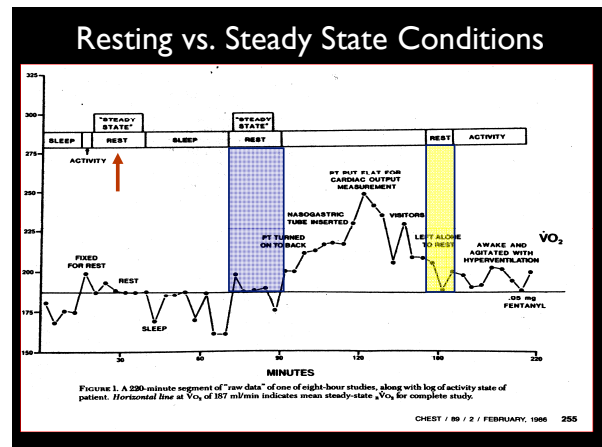
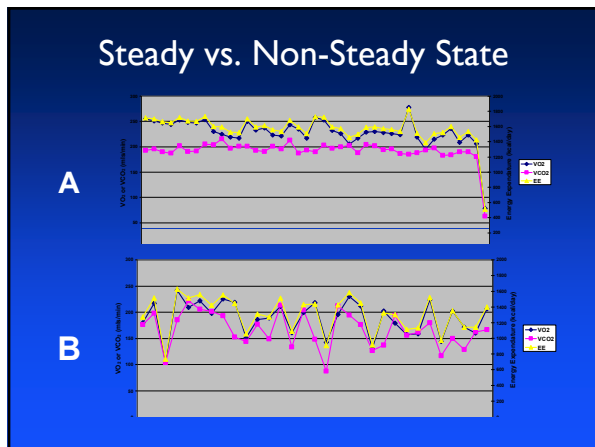
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Case Study

A 53 ♀ post-op 5 days following a AAA. The patient was conscious and responding to commands while breathing spontaneously between ventilator breaths.

Data Collected	5 min	10 min	15 min	20 min	30 min
Ventilation (L/min)	12.2	15.7	8.6	14.3	16.7
RQ	0.98	1.26	0.76	1.11	1.28
REE (kcal/24 hr)	2245	1824	1402	2600	2075



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Case Study

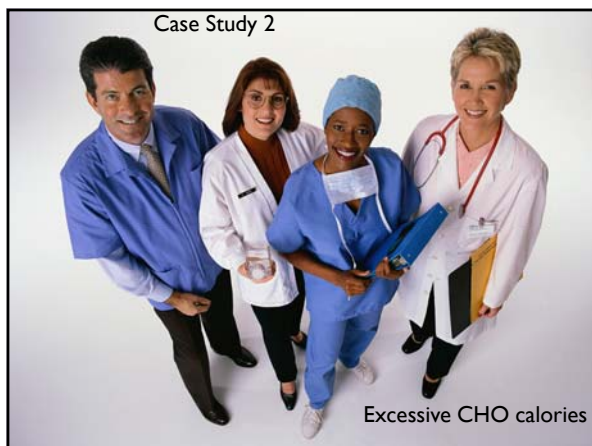
75 yo ♂ Dx with H1N1 flu. BMI was 30% of predicted with evidence of muscle catabolism.
Temp 38.2, HR 115, BP 147/98

TCI	Pred EE	RQ	IC EE
???	1650	.73	2130

The patient was started on feedings via NGT at 2200Kcal.

TCI	Pred EE	RQ	IC EE
2200	1650	.85	2130

TCI = Total Caloric Intake



Case Study

Ms RP, hx COPD, admitted to MICU with AVF requiring ventilatory support. IC on day 3.

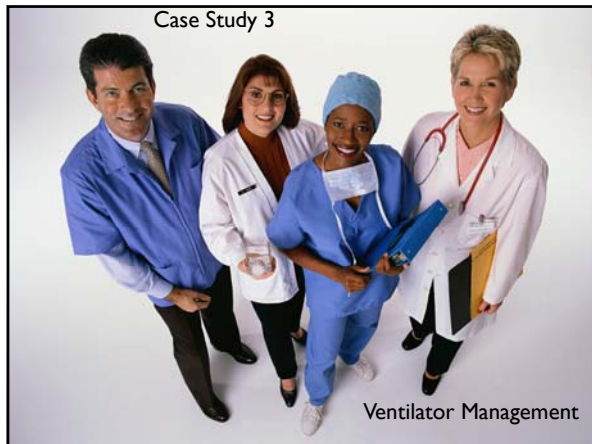
TCI	CHO/Fat	EE	RQ
2100	60:40	1950	1.04

Unable to wean due to high V_E requirements to maintain $PaCO_2$. IC study 24 hours after diet change.

TCI	CHO/Fat	EE	RQ
2100	45:55	1640	.85

Nutritional Assessment of the Critically Ill Patient

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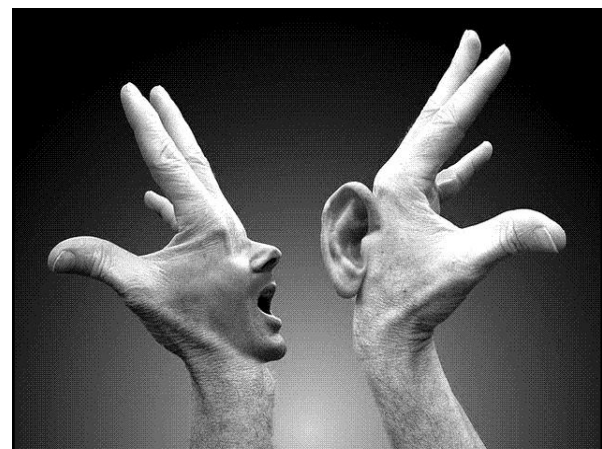
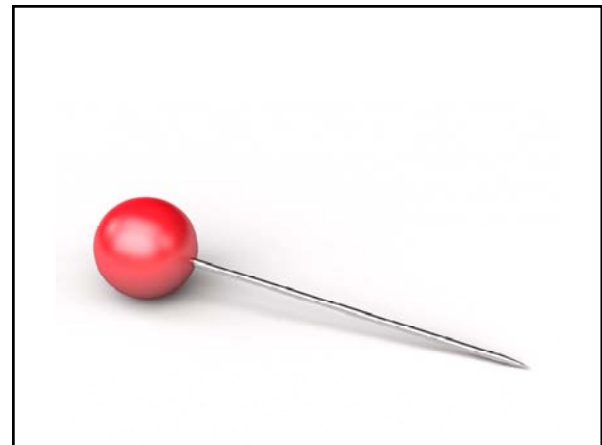
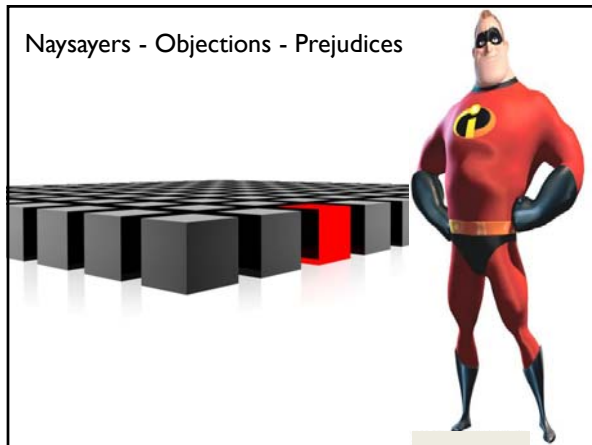


Case Study

Mr. KS requiring high V_E to maintain $PaCO_2$. Gas exchange studies were performed to determine increased V_D or VCO_2 . (TCI 2110 kcal)

PEEP	EE	RQ	V_E	V_D/V_T	CI
12	2250	.86	18.2	.71	1.9
8	1923	.82	12.3	.56	2.3

Comments: IC studies were useful to R/O excessive CHO feedings and measure V_D which was increased secondary to excessive PEEP levels.



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