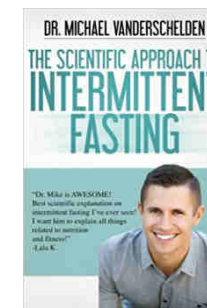
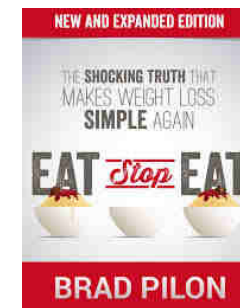
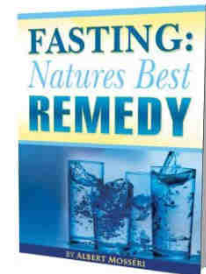
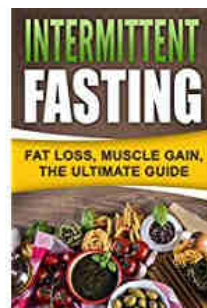
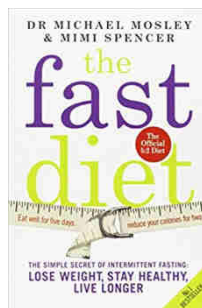
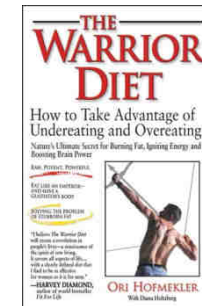
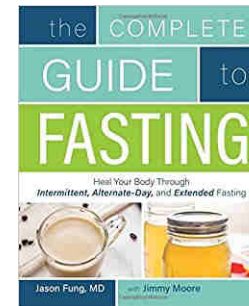
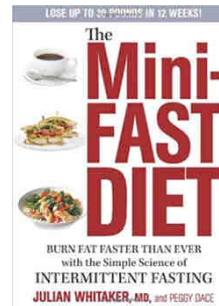
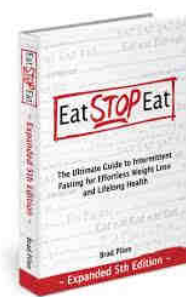
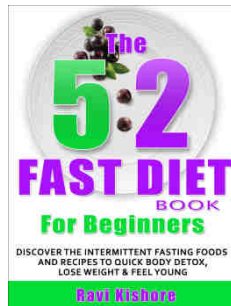
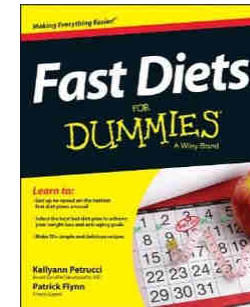
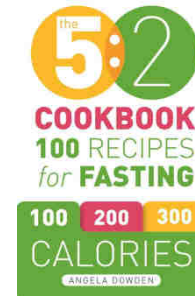
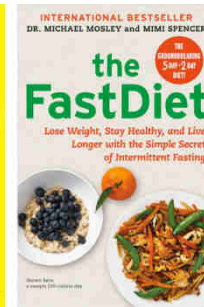
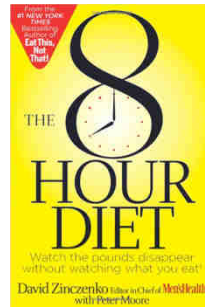
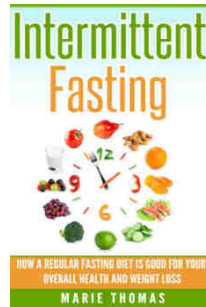
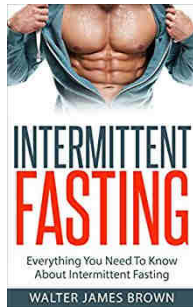


Fastendiäten- eine klinisch – wissenschaftliche Einschätzung

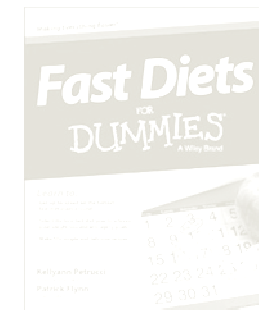
Dr. med. Maximilian Hatting
Medizinische Klinik III, Universitätsklinikum Aachen

VFED 2017

Fastendiäten- eine klinisch – wissenschaftlich Einschätzung



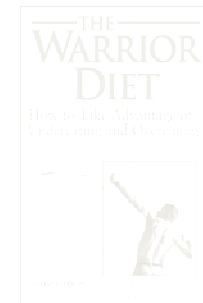
Die ideale Diät



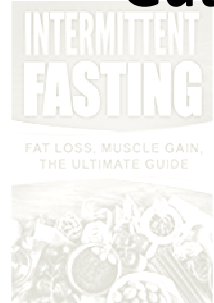
Körpergewicht ↓



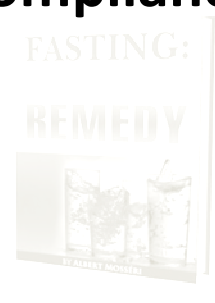
Fettmasse ↓



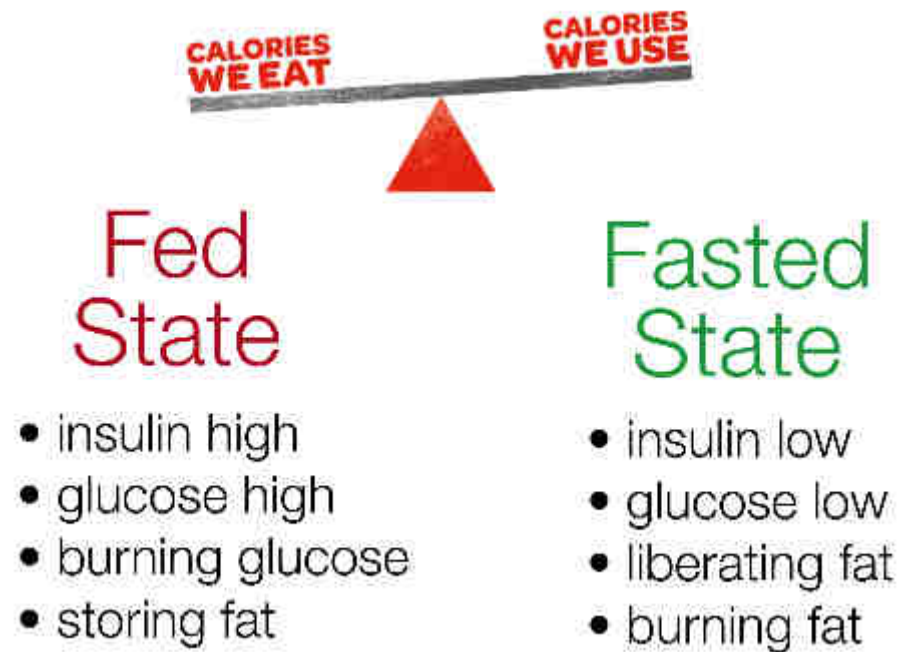
Fettfreie Körpermasse ↑



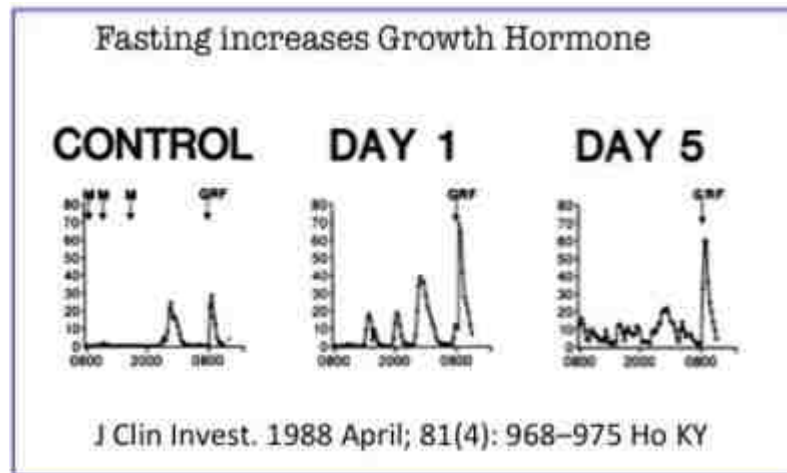
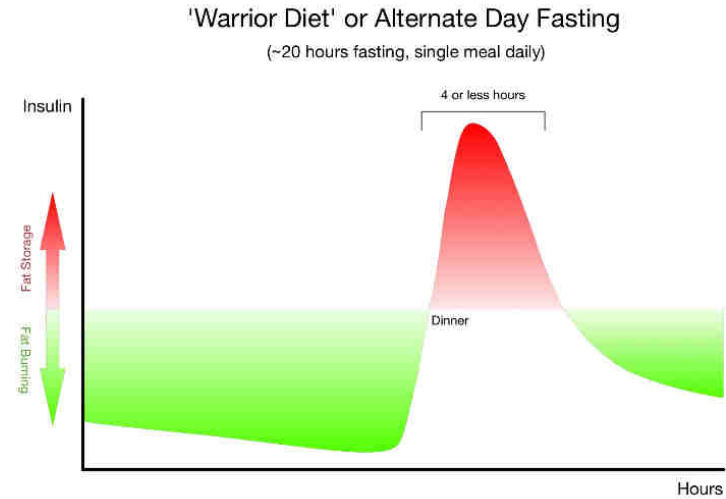
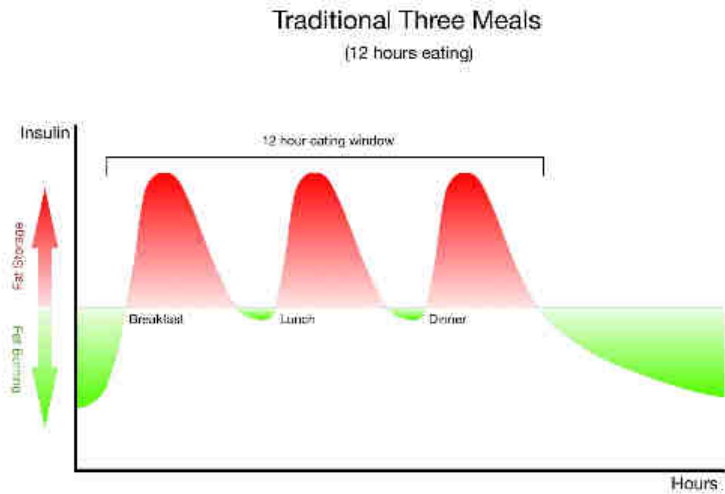
Gute Compliance



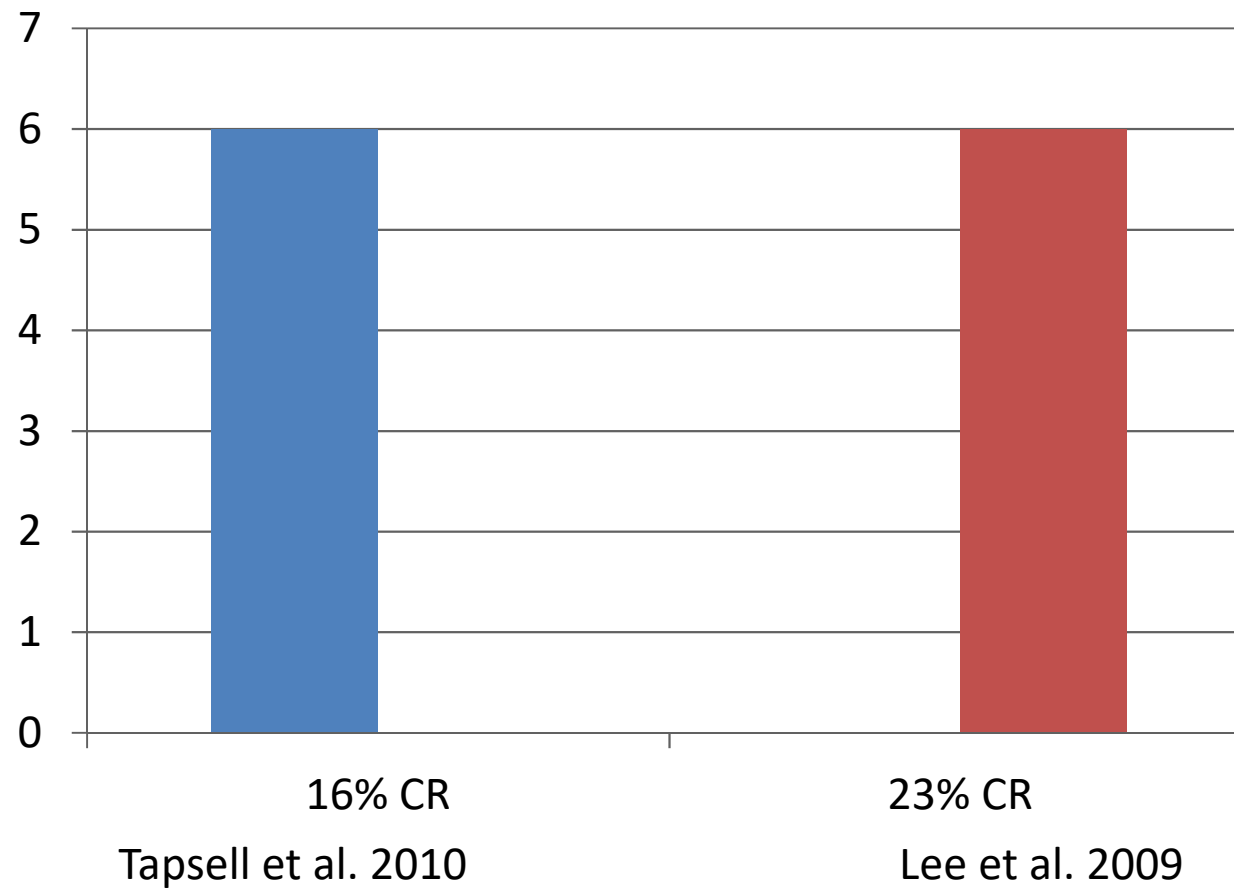
Intermittierende Kalorienrestriktion- theoretische Überlegung



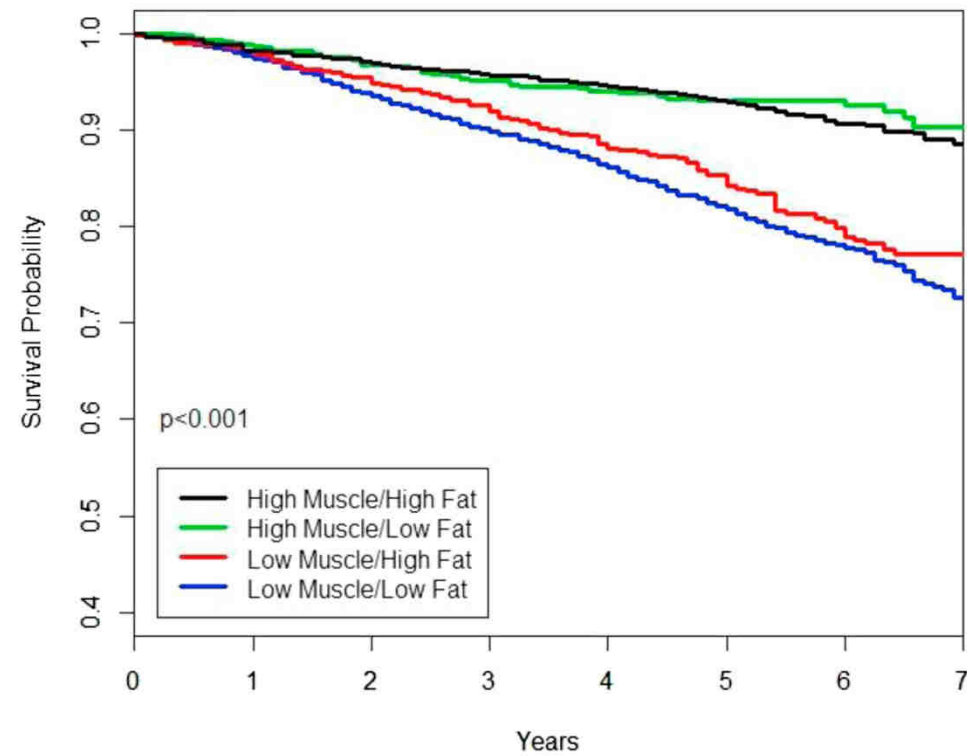
Intermittierende Kalorienrestriktion- theoretische Überlegung



Die absolute Energierestriktion ist nicht das Entscheidende

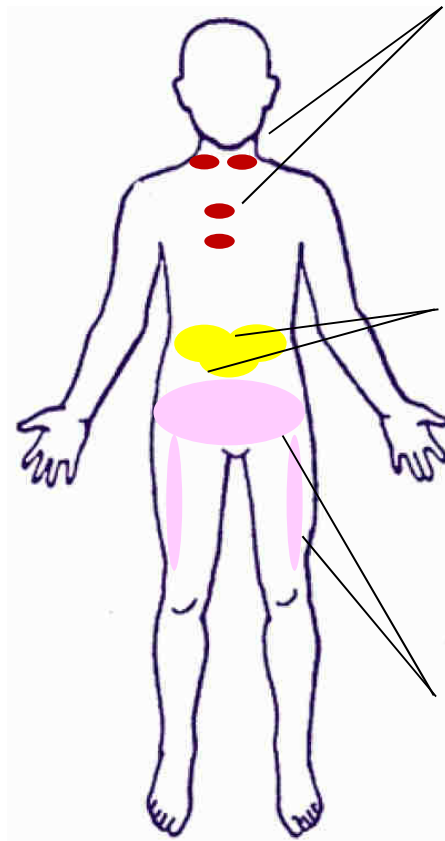


Die absolute Energierestriktion ist nicht das Entscheidende



Skrikanthan et al. 2016

Fettgewebe ist nicht gleich Fettgewebe



BAT

Supraclavicular, paravertebral

- Körperkerntemperatur
- Energieverbrauch hoch
- Zahlreiche Mitochondrien

Visceral WAT

intra-peritoneal
(omental, mesenterisch)

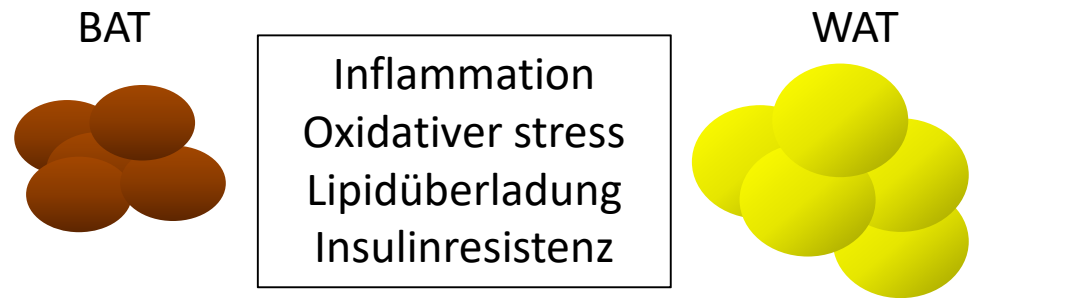
- Energiespeicherung
- Endokrin aktiv
- Korreliert mit metabolischem Syndrom

Subcutan WAT

abdominal, gluteal, femoral

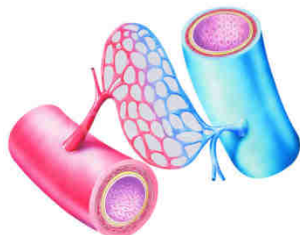
- Isolation
- Energiespeicherung
- Endokrin aktiv
- Korreliert negativ mit metabolischem Syndrom

Fettgewebe ist nicht gleich Fettgewebe

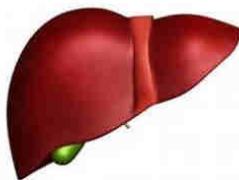


↓ Dysfunktion des Fettgewebes

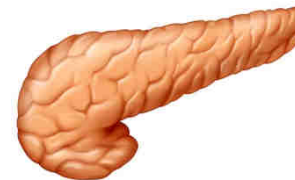
Pro- inflammatorische Zytokine ↑
Freie Fettsäuren ↑
Adipokine (Adiponectin ↓,
Andere ↑ ↓ ?)



Endotheliale
Dysfunktion ↑



Leberverfettung ↑
Insulinresistenz ↑

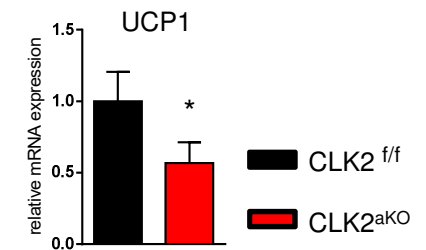
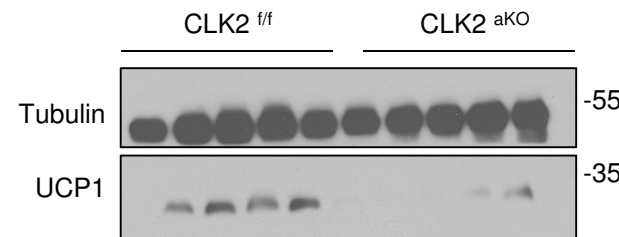
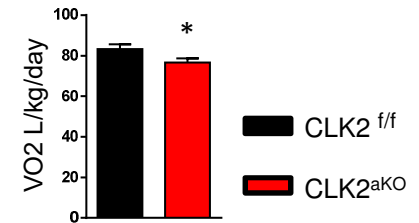
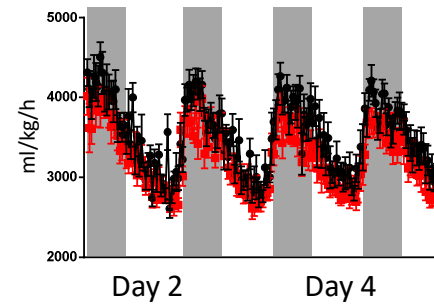
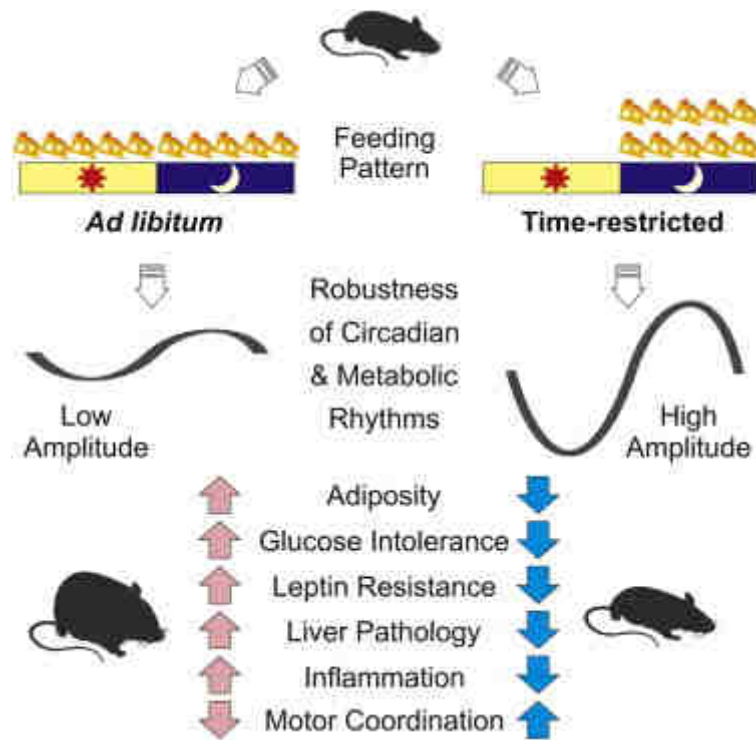


B-Zellfunktion ↓



Insulinresistenz ↑

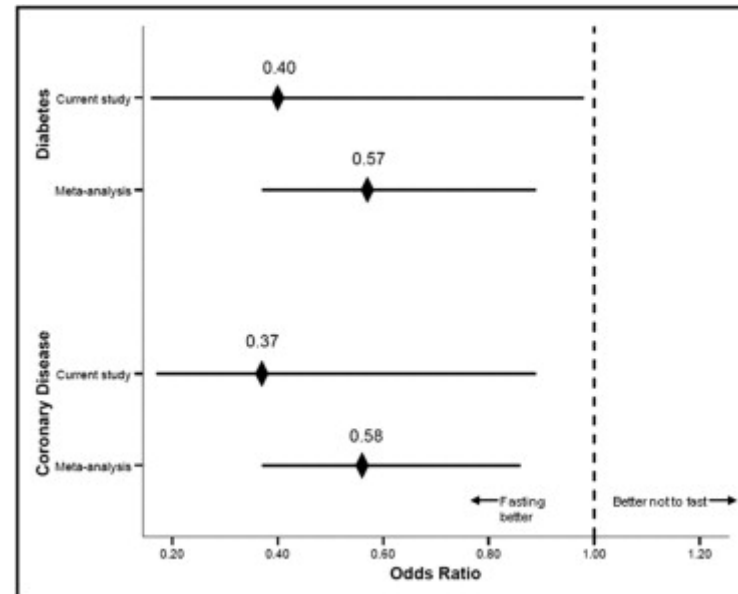
Intermittierende Kalorienrestriktion-Ergebnisse aus dem Tiermodell



Hattori et al. 2012

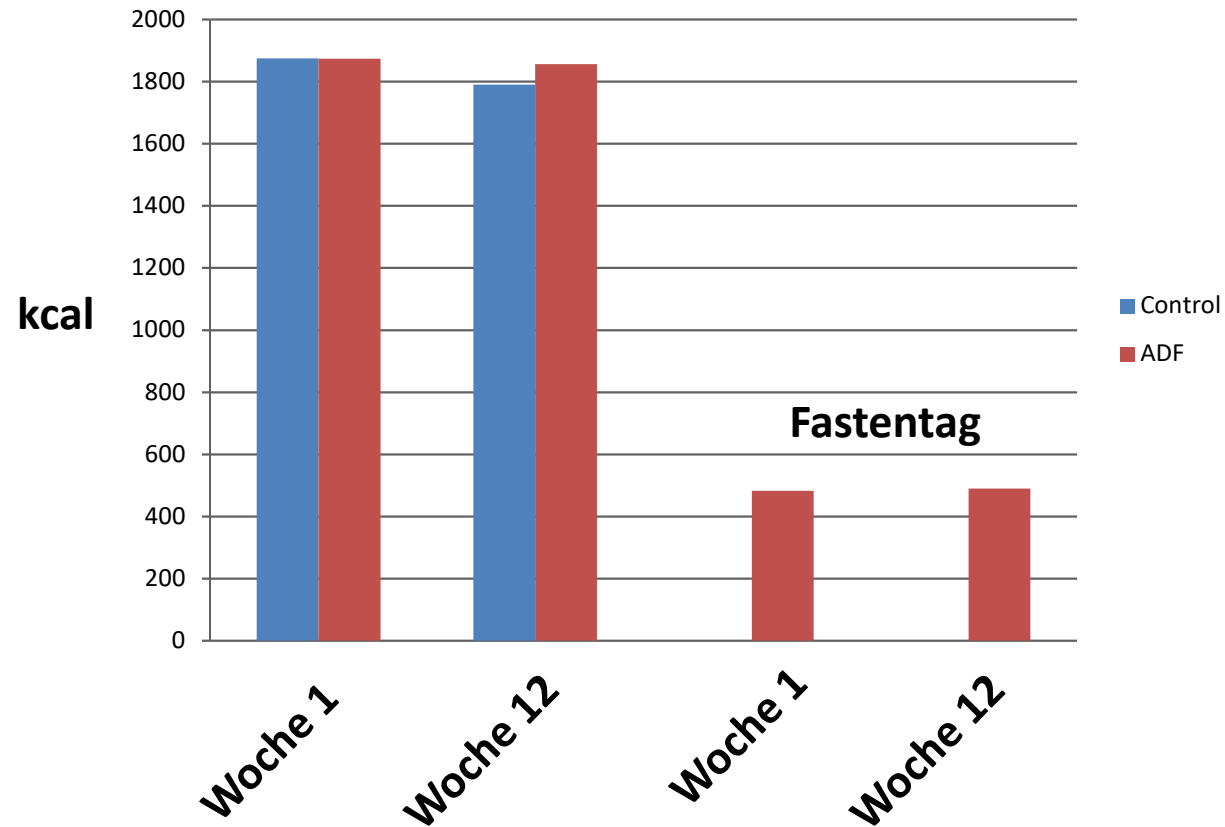
Hatting et al. 2017

Intermittierende Kalorienrestriktion- bringt das was?



Horne et al. 2012

Intermittierende Kalorienrestriktion- bringt das was?



Stoffwechsellagen

Satt- Zustand

- Beginnt während der Nahrungsaufnahme
- Dauer: 3-5 Stunden

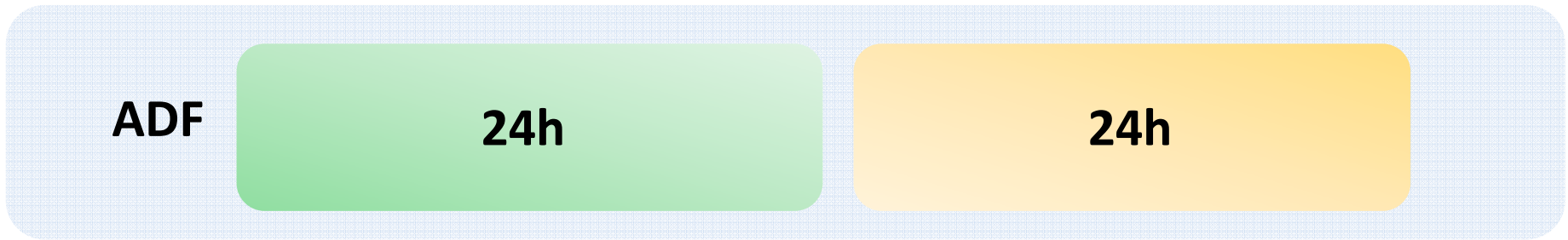
Postabsorptiver Zustand

- Keine aktive Verdauung
- Dauer: 8-12 Stunden nach der letzten Mahlzeit

Fasten- Zustand

- Start der Lipolyse im Fettgewebe
- Dauer: ab 12 Stunden nach der letzten Mahlzeit

Fastenmodelle im Überblick



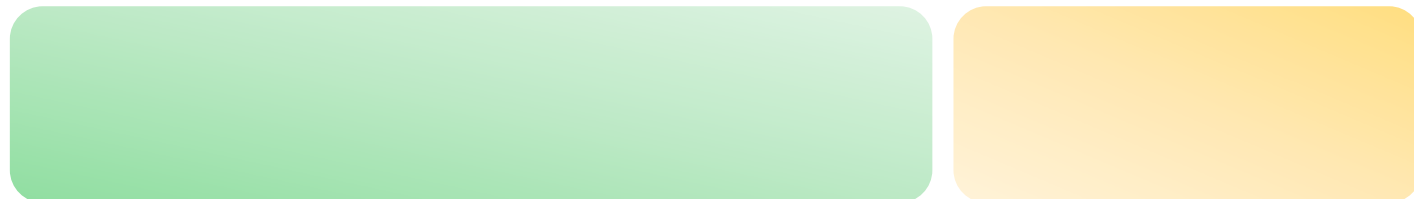
IER



TRF



36/12
fast



Diätplan IER

Alternate Day Fasting (for moderate weightloss)



A Randomized Pilot Study Comparing Zero-Calorie Alternate-Day Fasting to Daily Caloric Restriction in Adults with Obesity

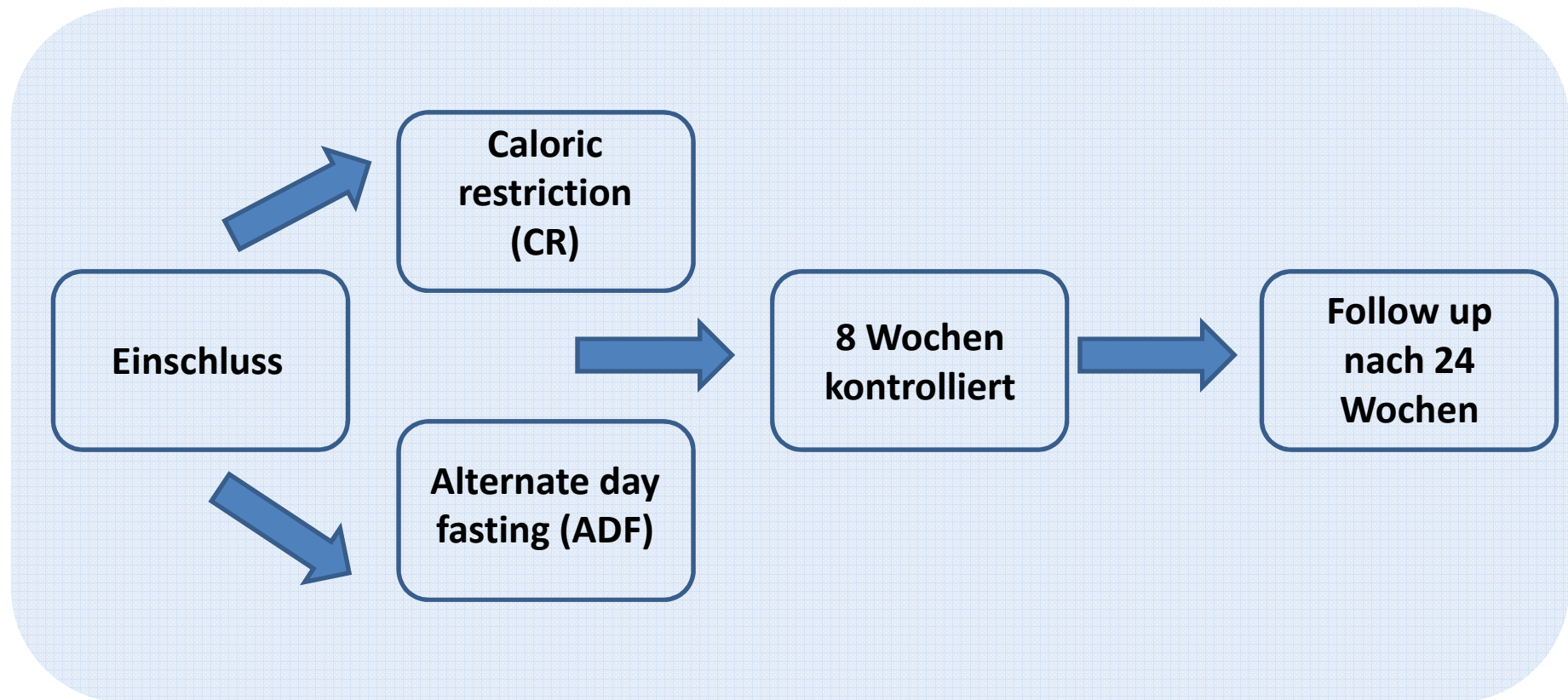
Victoria A. Catenacci^{1,2}, Zhaoxing Pan³, Danielle Ostendorf^{2,4}, Sarah Brannon⁵, Wendolyn S. Gozansky⁶, Mark P. Mattson^{7,8}, Bronwen Martin⁹, Paul S. MacLean^{1,2}, Edward L. Melanson^{1,10}, and William Troy Donahoo^{1,6}

- **Randomisierte kontrollierte Studie**
- **Mahlzeiten gestellt während der kontrollierten Phase**
- **Überwachungsfreie follow up Phase**

Studiendesign

A Randomized Pilot Study Comparing Zero-Calorie Alternate-Day Fasting to Daily Caloric Restriction in Adults with Obesity

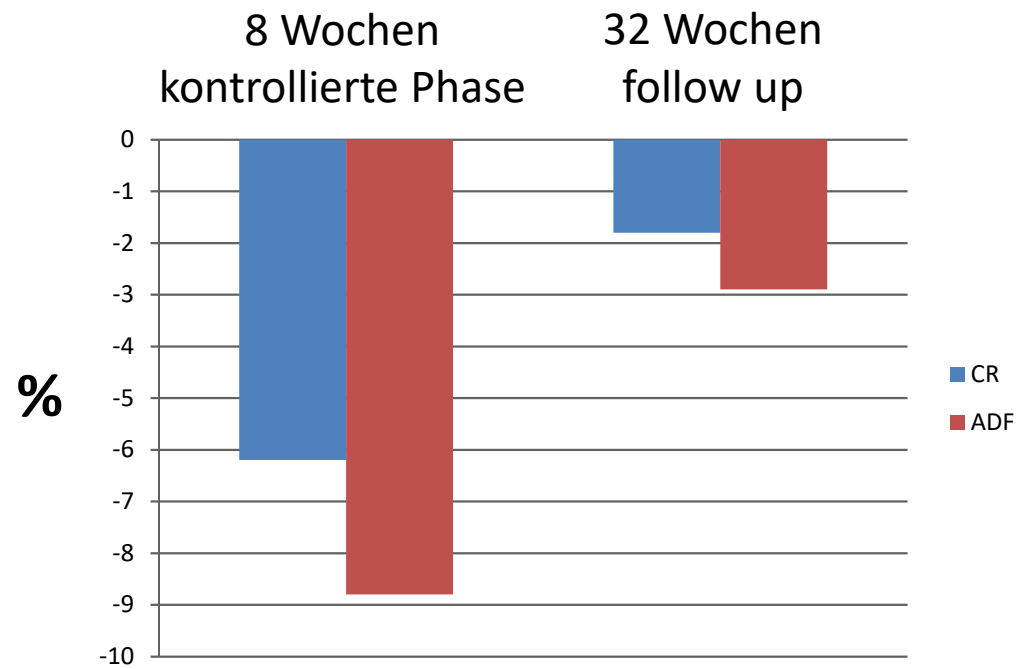
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Relativer Gewichtsverlust

A Randomized Pilot Study Comparing Zero-Calorie Alternate-Day Fasting to Daily Caloric Restriction in Adults with Obesity

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Änderungen Fettmasse/ fettfreie Masse

Obesity
A Research Journal

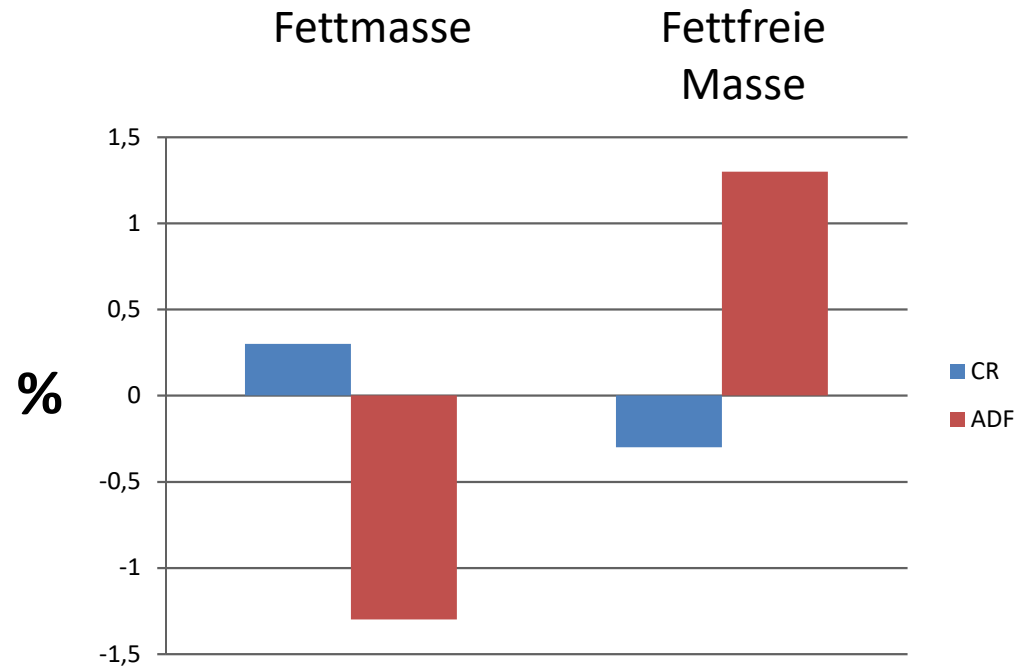


Original Article
CLINICAL TRIALS AND INVESTIGATIONS

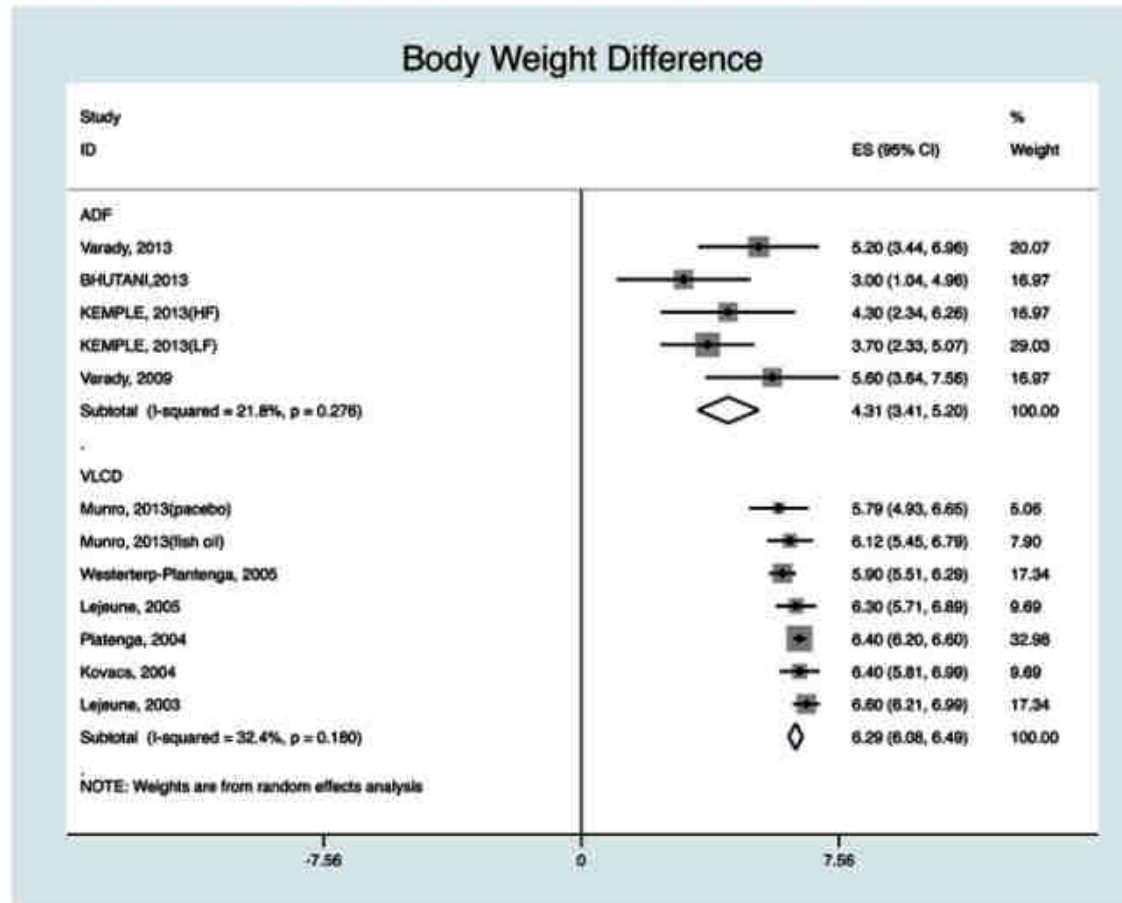
Obesity

A Randomized Pilot Study Comparing Zero-Calorie Alternate-Day Fasting to Daily Caloric Restriction in Adults with Obesity

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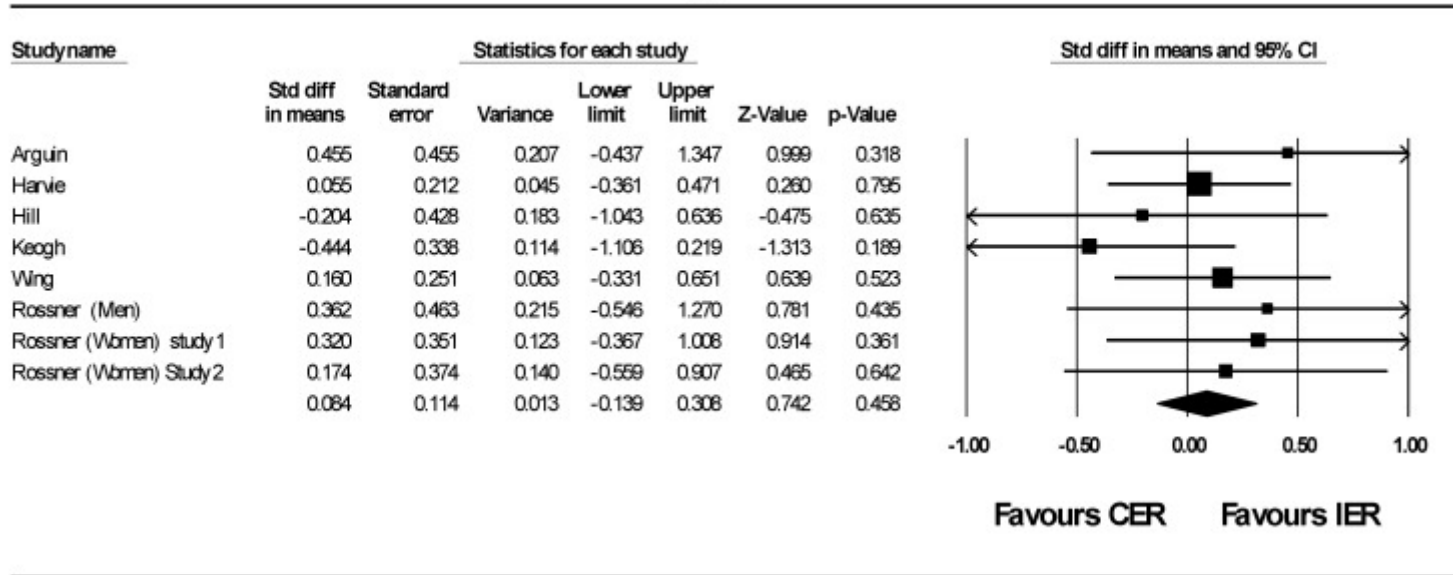


Fasten versus tägliche Kalorienrestriktion

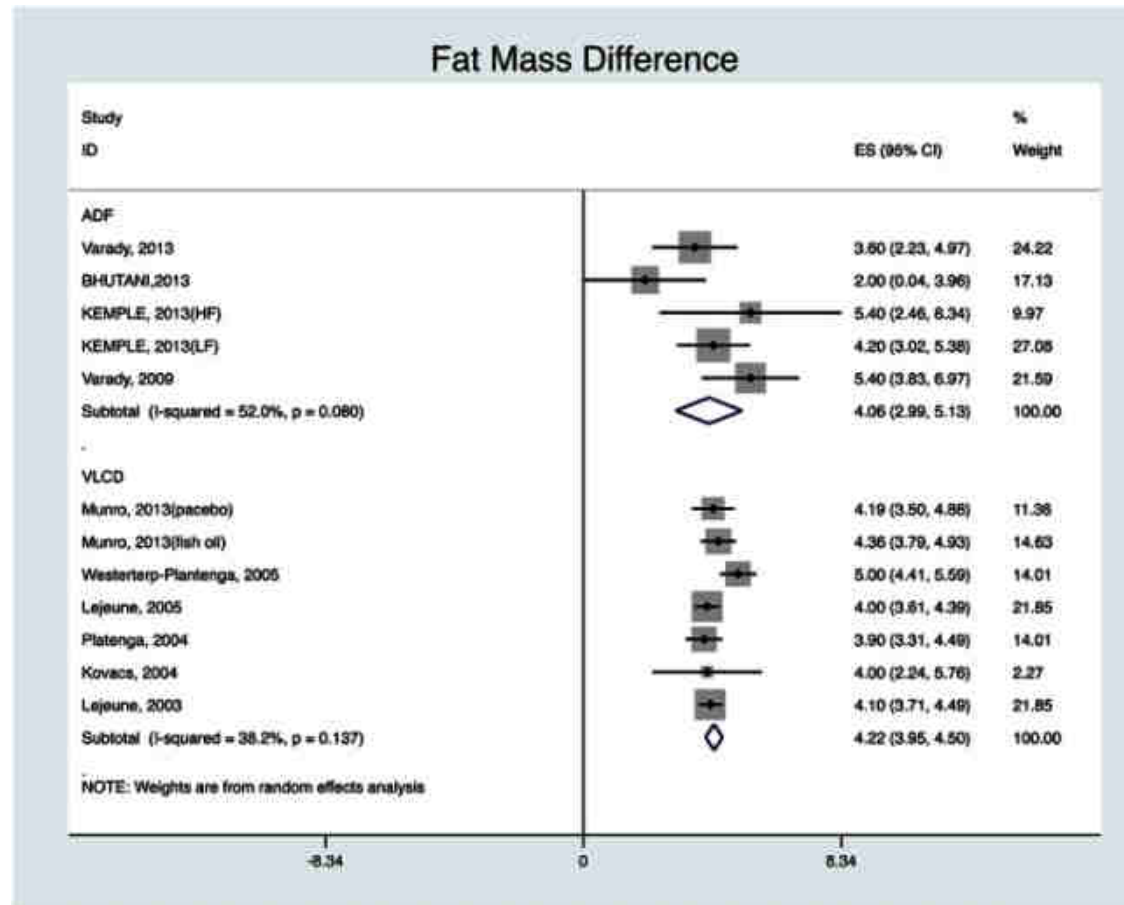


Fasten versus tägliche Kalorienrestriktion

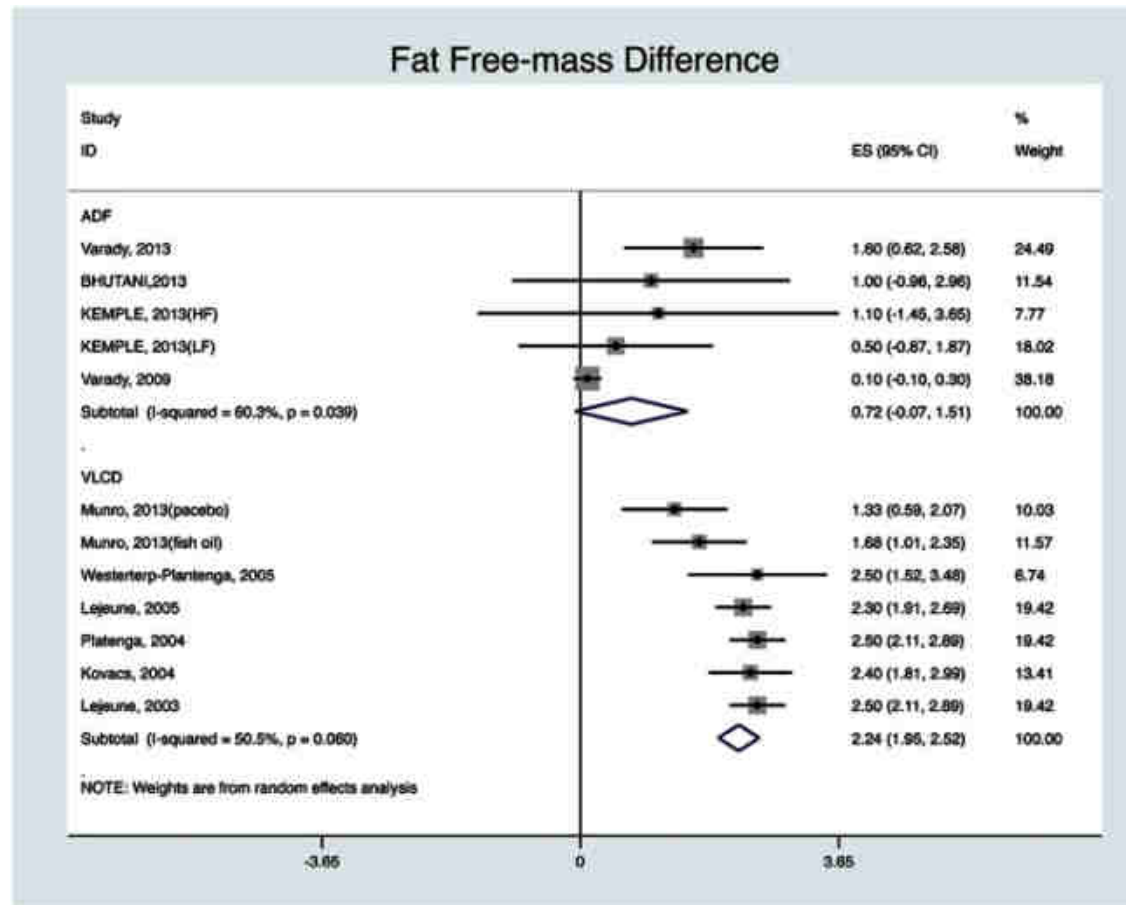
Weight Loss



Fasten versus tägliche Kalorienrestriktion

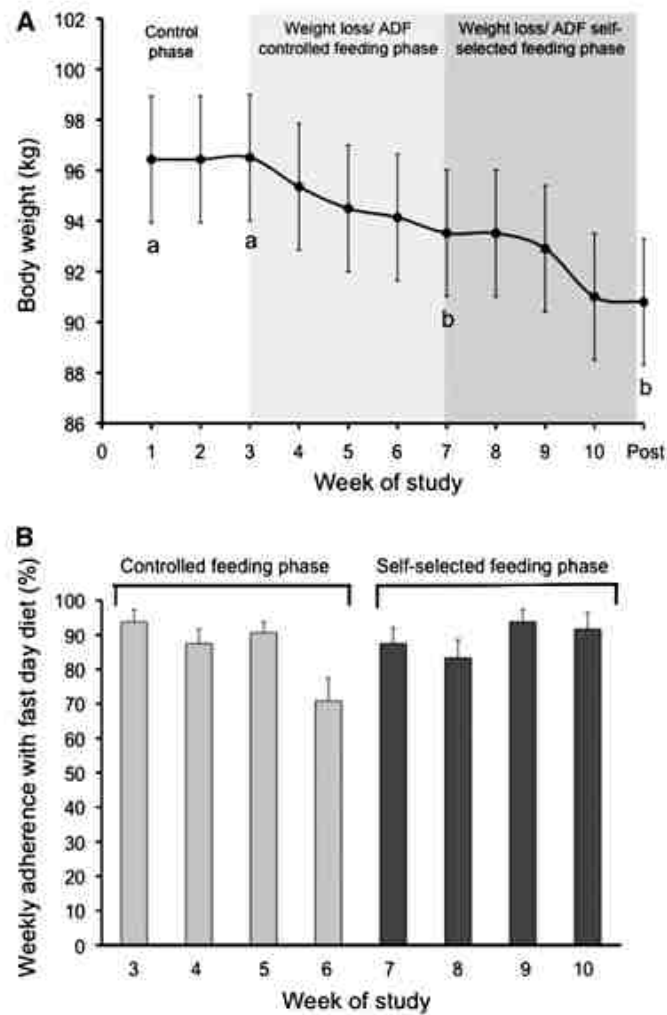


Fasten versus tägliche Kalorienrestriktion

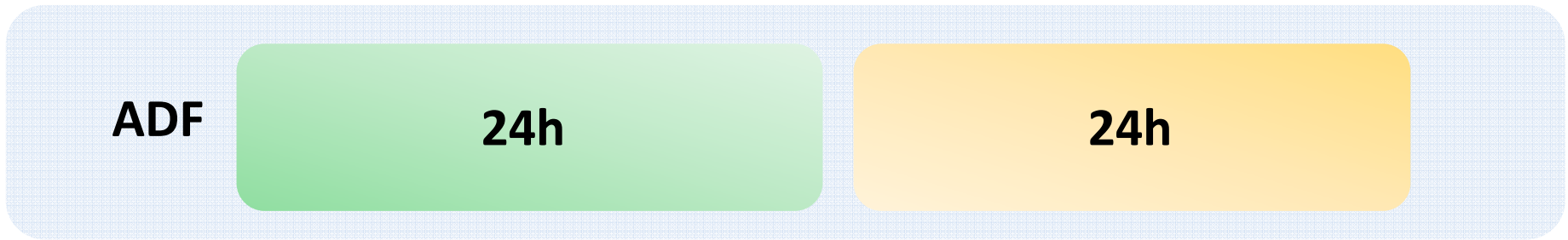


IF kann die Compliance verbessern

Mean (\pm SEM) body weight and percentage adherence during the 10-wk trial.



Fastenmodelle im Überblick



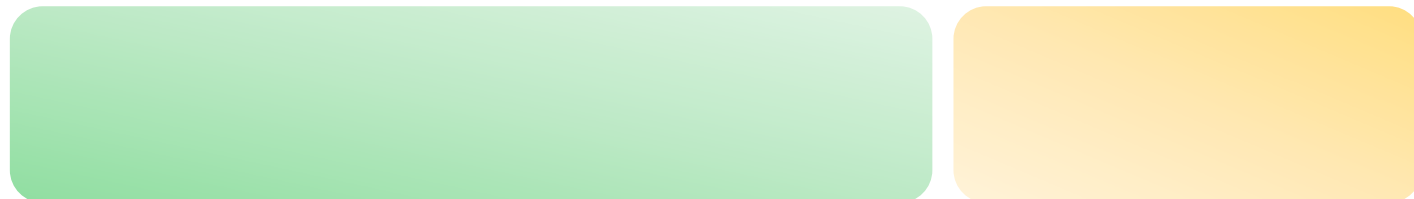
IER



TRF



36/12
fast

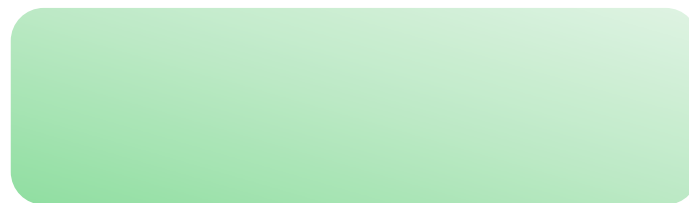


... und was soll man jetzt machen?

Vorteile IER

- **Bessere Compliance**
- **Weniger Stress**
- **Positive Stickstoffbilanz möglich**
- **Weniger starke Schwankungen der Blutfett- und Ketonkörperspiegel**

IER



Für welche Patienten ist IF nicht geeignet?

- **Diabetes mellitus**
- **Schwangere**
- **Patienten, die am GI Trakt operiert wurden**
- **Keine Probleme bei Patienten mit Essstörungen**
- **Prämenopausale Frauen: Verlängerung des Zyklus möglich**

Zusammenfassung

- Fastendiäten sind sicher und führen zu vergleichbaren Ergebnissen wie andere Diätformen
- Es gibt unterschiedlichste Formen und Pläne, die wissenschaftliche Bewertung ist nicht abgeschlossen
- Vorsicht bei Patienten mit Diabetes mellitus, Schwangeren, voroperierten Patienten

