

## Prevalence of childhood obesity in Switzerland depends on the definition applied

### Author/Address of institution:

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\*Both authors contributed equally

### Background/Introduction:

Childhood obesity is usually defined as a high BMI-for-age-and-sex, but different reference values are available and their validity is yet to be validated in Switzerland.

### Methods:

Cross-sectional study including 327 girls and 327 boys aged 4 to 6 years (Ballabeina study). Body fat was assessed by bioimpedance and body fat percentage calculated according to Schaefer formula. Four BMI-based criteria to define overweight and obesity were applied: IOTF, CDC, Kromeyer-Hauschild (KH) and Swiss-National (Largo; SW). Body fatness categories were chosen so that the number of children in each category (normal, moderate and elevated) would equal the number of children in the corresponding BMI categories (normal, overweight and obese, respectively).

### Results:

The prevalence of obesity in boys was 2.1%, 2.5%, 2.4% and 9.3%, according to KH, IOTF, CDC and SW criteria (2.4%, 2.5%, 4.3% and 11.7% in girls). The corresponding percentages for overweight boys were 6.1%, 6.7%, 7.6% and 8.0% according to KH, SW, CDC and IOTF criteria (6.1%, 12.4%, 7.6% and 10.5% in girls). The percentages of obese boys with corresponding elevated body fat levels were 24.2%, 66.7%, 100% and 100% according to SW, CDC, IOTF and KH (28.6%, 100%, 100% and 100% in girls).

### Conclusion:

Obesity and overweight prevalence depend on the classification used. Still, BMI appears to be an adequate screening method of adiposity in 4-6-year-old Swiss children. The SW criteria do not adequately identify children with high levels of body fat (with best results obtained with CDC and IOTF values).

## Trends of body image and desire to lose weight in the adult Swiss population, 1997-2007

### Author/Address of institution:

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### Background/Introduction:

Studies have shown that, in the USA, body dissatisfaction has decreased among overweight and obese subjects. Knowledge of trends on how current body weight relates to both weight satisfaction and desire to change weight among Swiss adults is limited.

### Methods:

Cross-sectional data from three National health interview surveys conducted in representative samples of the Swiss adult population: 1997 (n=12,474), 2002 (n=18,908) and 2007 (n=17,879). Weight, height, body dissatisfaction and desire to change weight were assessed by questionnaire.

### Results:

In 1997, 2002 and 2007 the percentages of overweight individuals dissatisfied with their weight was 63%, 67% and 63% in women and 41%, 46% and 42% in men respectively. Among obese subjects, the percentages were 77%, 82% and 79% in women and 63%, 73% and 67% in men. In overweight men, desire to change weight was 62.9% and 69.9% in 1997 and 2007, respectively (79.7% and 88.5% in women). Among obese men the percentages were 82.7% and 86.2% (86.3% and 91.6% in women). Most (>97%) of the desired changes were towards a decrease. Still, a significant percentage (36.1% in 2007) of normal weight men reported a desire to increase weight (9.1% in normal weight women). Multivariate analysis revealed that female gender, younger age, migrant status, high educational level, former smokers and increased BMI were independently and positively associated with body dissatisfaction and desire to change weight, while no relationship was found for survey year.

### Conclusion:

Contrary to the USA, body dissatisfaction and desire to lose weight remained stable in Switzerland between 1997 and 2007.

## Male Functional Hypogonadotropic Hypogonadism: A Distinct Clinical Entity?

### Author/Address of institution:

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### Background/Introduction:

There is a tight link between reproduction and metabolism across species. In women, energy deficit (i.e. excessive exercise or weight loss) leads to a functional inhibition of the reproductive axis and is termed as Hypothalamic Amenorrhea (HA). Whether a similar clinical condition exists in men is unclear.

### Methods:

We studied 7 men presenting with symptoms of hypogonadism and one or more associated factors that in women are known to predispose to HA; i.e. excessive exercise (n=4), low body weight/weight loss (n=3), and/or psychological stress (n=3). Subjects discontinued hormonal treatment and underwent detailed phenotyping after a washout period, including measurements of reproductive and metabolic hormones, an overnight frequent sampling study of LH, and DEXA scan for body composition. Genetic studies were performed for the known loci of GnRH deficiency. Thirty-five age-matched healthy adults served as controls.

### Results:

All 7 men had spontaneous and full pubertal development, evidenced by spontaneous growth spurt, normal testicular size ( $22 \pm 2$  ml) and Tanner V pubic hair. Yet, one subject reported a history of delayed puberty. Of note 4 had eunuchoidal proportions (armspan > height by 5 cm). All 7 men were hypogonadal and hypogonadotropic (serum T range:  $110-243$  ng/dL, mean  $\pm$  S.D.:  $168 \pm 45$  ng/dL vs.  $534 \pm 130$  ng/dL in controls,  $p < 0.001$ ; serum estradiol:  $12 \pm 2$  pg/ml vs  $38 \pm 9$  pg/ml,  $p < 0.001$  and mean serum LH:  $7.2 \pm 1.5$  IU/L vs.  $10 \pm 2.7$  IU/L,  $p < 0.05$ ). Six out of 7 subjects had pulsatile LH pattern while one was apulsatile. All subjects had lower BMI ( $20.7 \pm 2.5$  kg/m<sup>2</sup> vs.  $25 \pm 3.5$  kg/m<sup>2</sup>,  $p < 0.01$ ) and most men with hypogonadotropic hypogonadism had an extremely low body fat mass ( $9.8 \pm 2.4$  % vs  $17.6 \pm 7.2$  %,  $p < 0.01$ ). Notably, subject # 4 and # 7 were re-assessed for reversibility thus far, and demonstrated a sustained adult serum T level ( $> 270$  ng/dL) after resolution of predisposing factors. No subjects had mutations in known loci of GnRH deficiency.

### Conclusion:

In men, hypogonadotropic hypogonadism can occur in the setting of energy deficits and psychological stress. We propose that this presentation represents a distinct clinical entity akin to HA. A follow-up study for all subjects is currently underway to assess reversibility and to establish the clinical presentation, diagnostic criteria and pathophysiology underlying Male Functional Hypogonadotropic Hypogonadism (MFHH).

## Incidence and main characteristics of Gestational Diabetes (GDM) in Fribourg's Cantonal Hospital – Switzerland: screening in 1042 consecutive pregnancies

### Author/Address of institution:

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### Background/Introduction:

Gestational diabetes mellitus (GDM) is associated with poor maternal and foetal outcome. Screening for GDM between the 24<sup>th</sup> and 28<sup>th</sup> week of pregnancy is universally recognised as an efficient tool to reduce these complications, though not yet worldwide fully applied. This study was aimed to evaluate the incidence of gestational diabetes, gestational glucose intolerance (GGI) and birth major complications in the Hôpital Cantonal, Fribourg.

### Methods:

Between January 2004 and December 2005, 1042 consecutive pregnant woman were screened for GDM after the end of the second trimester. Our institution applies a two-steps screening method, beginning with a 1-hour 50g oral glucose challenge test. All patients with a positive 50g screening test (Plasma Glucose  $\geq 7.8$  mmol/l at 1 hour) underwent a 3h standard 100g oral glucose tolerance test. GDM and GGI women were then followed until delivery, and underwent a follow-up 75g-OGTT at 3 months, 1 year, 2 year and 3 year. Patients with known diabetes at time of screening were excluded from this study.

### Results:

The incidence of GDM was 4.8 % (CI95 3.6 – 6.3) and the incidence of GGI was 2.7 % (CI95 1.7 – 3.7) in the population studied. The patient group with GDM significantly differed from control, with a higher proportion of Asiatic women (32.0 % vs 2.9 %,  $p=0.001$ ) and high prevalence of previous GDM (26.0 % vs 0.0%,  $p<0.001$ ). Major neonatal complications occurred more frequently in the GDM group (newborn hypoglycaemia 26.5% vs 6.3%,  $p=0.02$  and respiratory distress syndrome 20.4% vs 9.4%,  $p=0.18$ ) compared to control group. Multiple logistic regression analysis identified that Asiatic origin (OR 1.64 CI95 0.10 to 3.17) and previous GDM (OR 1.88 (-0.20 to 3.97) were associated with an increased incidence of new GDM. Twelve months after delivery, 14.3% of patients with GDM had an impaired glucose tolerance, when challenged with a 75 g oral glucose test.

### Conclusion:

This study shows that GDM and GGI have a high incidence in our country and are associated with birth complications. This study is the first evaluation of the incidence of GDM in Switzerland, diagnosed with a 2-steps-method.

# Jahresversammlung Assemblée annuelle

# 2010

18. und 19. November 2010  
le 18 et 19 novembre 2010

Inselspital Bern

Schweizerische Gesellschaft für  
Endokrinologie und Diabetologie - SGED

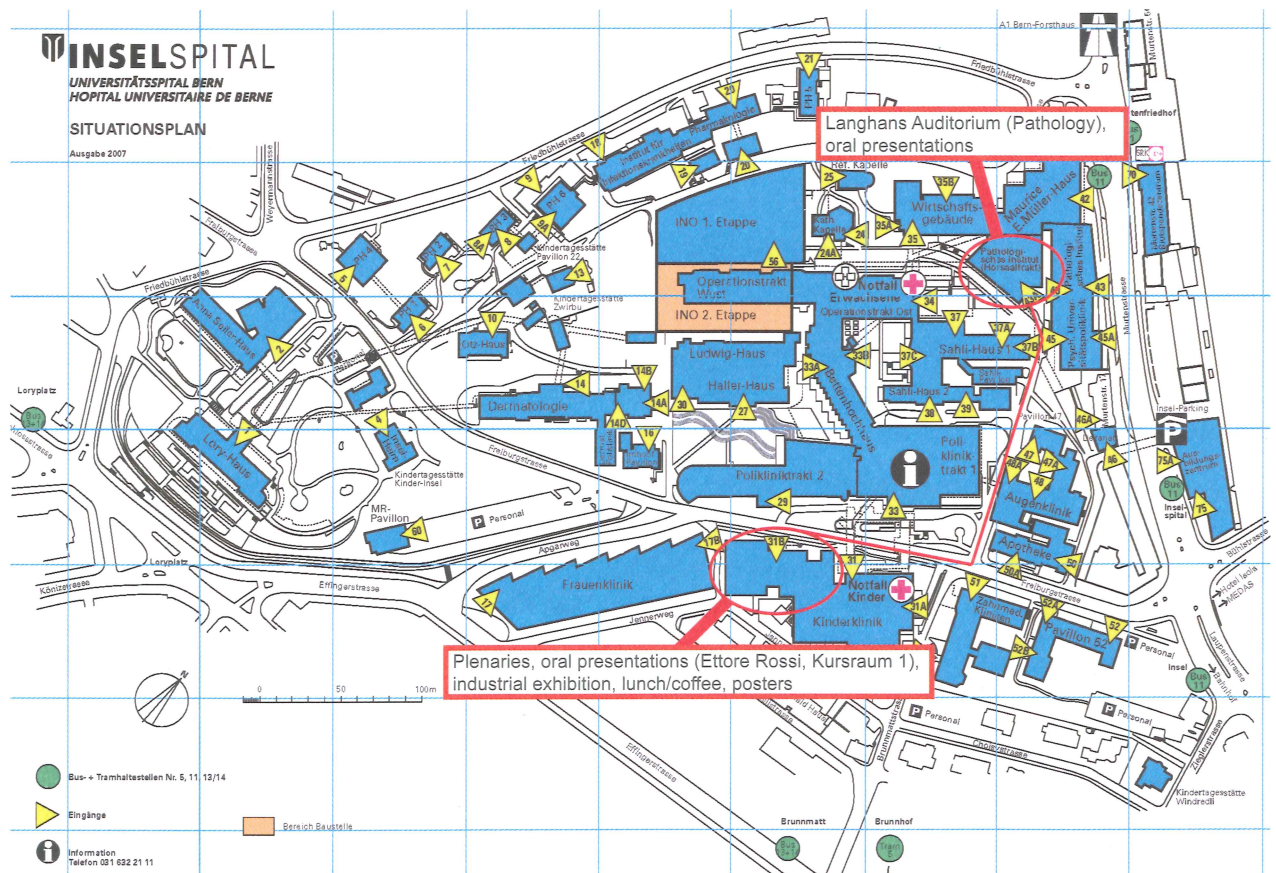
Société Suisse d'Endocrinologie  
et de Diabétologie - SSED





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mus und Obesitas



Schweizerische Gesellschaft für  
Endokrinologie und Diabetologie  
Société Suisse d'Endocrinologie  
et de Diabétologie

## Programme of the 5<sup>th</sup> Annual Meeting ASEMO-SAMO

Association Suisse pour l'Etude du Métabolisme et de l'Obésité  
Schweiz. Arbeitsgruppe Metabolismus und Obesitas

(preceding the Annual Meeting of SGED)

Thursday, November 18, 2010, Inselspital Bern, Kinderklinik

### Update lectures and new issues

Chairman: *Alain Golay*

9.15 – 10.00 **Overweight and obesity in Switzerland: costs and future prospects.**  
*Heinz Schneider, Basel*

### Research Communications

Chairmen: *Abdul Dulloo, Yves Schutz*

10.00 – 10.15 **Abstract 67 – PI3K $\gamma$  in Non-Hematopoietic Cells Plays a Major Role in the Promotion of Obesity, Inflammation, and Glucose Intolerance**  
*Giovanni Solinas, Romina Marone, Barbara Becattini, Fabio Zani, Abdul G. Dulloo, Jean-Pierre Montani, Frederic Preitner, Matthias P. Wymann; Fribourg, Basel, Lausanne*

10.15 – 10.30 **Abstract 1 – Skeletal muscle insulin resistance and lipotoxicity: differential effects of diacylglycerols and ceramides**  
*Francesca Amati, Bret H. Goodpaster; Lausanne, Pittsburgh*

10.30 – 10.45 **Abstract 33 – A multifactorial approach to prevent adiposity and improve fitness in predominantly migrant preschool children: cluster-randomized controlled trial (the Ballabeina Study)**  
*Puder JJ, Marques-Vidal P, Zahner L, Niederer I, Bürgi F, Ebenegger V, Hartmann T, Meyer U, Schindler Ch, Nydegger A, Kriemler S; Lausanne, Basel*

10.45 – 11.00 **Abstract 25 – Cardiorespiratory fitness prevents the increase in blood pressure due to body fat in adolescents**  
*Gisela Marcelino, João Melich-Cerveira, Fred Paccaud, Pedro Marques-Vidal; Lisbon, Lausanne*

11.00 – 11.30 Break with Coffee and Juice

Chairpersons: *Kurt Laederach, Anne Laurent-Jaccard*

11.30 – 12.15      **Obesity as cancer risk factor**  
*André-Pascal Sappino, Geneva*

12.15 – 12.45      **Bariatric surgery : the final cure for diabetes?**  
*Ulrich Keller, Basel*

12.45                      End of the scientific ASEMO meeting

**12.45 – 13.45      General Assembly of ASEMO for members**

**Access is free.**

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# Poster presentations

Friday, 19 November, 12.15 – 14.00

Ettore Rossi and U1

## CLINICAL

- 2 **Case report of an incidentally discovered TSH-secreting pituitary adenoma**  
Claudine A. Blum, Isabelle Suter, Luigi Mariani, Henryk Zulewski (Basel)
- 4 **Evaluating the Cost-Effectiveness of Self-Monitoring of Blood Glucose in Type 2 Diabetes Patients on Oral Anti-Diabetic Agents: A Long-Term Modeling Study in Switzerland**  
M. Brändle, W.J. Valentine, G. Goodall, R.F. Pollock (St. Gallen, Basel)
- 5 **Pituitary apoplexy – a series of five cases**  
Lukas Burget, Stefan Fischli, Isabelle Simon-Vermot, Christoph Henzen (Luzern)
- 6 **Adherence to type 2 diabetes treatment recommendations issued by the Swiss Society for Endocrinology and Diabetes: a critical appraisal**  
Konstantin Burgmann, Sandra A. Fatio, Beat Jordi, Jonas Rutishauser (Biel)
- 8 **Burden of disease attributable to obesity and overweight in Switzerland**  
Carol Davin, Peter Vollenweider, Gérard Waeber, Fred Paccaud, Pedro Marques Vidal (Lausanne)
- 9 **Hyperthyreose und pulmonale Hypertonie**  
Dürst Urs Niklaus, Binz Katharina, Brunschwig Thierry, Engel Hermann (Zollikon, Zürich)
- 10 **Relationship between adiposity, physical (in)activity, media use and eating habits in preschool children with degree of hyperactivity**  
Vincent Ebenegger, Simone Munsch, Pedro-Manuel Marques-Vidal, Andreas Nydegger, Jérôme Barral, Tim Hartmann, Susi Kriemler, Jardena J. Puder (Lausanne, Basel)
- 13 **Challenges in the diagnosis of late dumping syndrome in patients post-bariatric surgery**  
Lucie Favre, François Pralong, Nelly Pitteloud, Vittorio Giusti
- 14 **Diffuse nesidioblastosis with hypoglycemia mimicking an insulinoma: a case report**  
Chiara Ferrario, Deplhine Stoll, Maurice Matter, Jardena Puder (Lausanne)
- 15 **Malignant pheochromocytoma treated with sunitinib – a case report**  
Stefan Fischli, Marie-Thérèse Henzi, Thilo Zander, Christoph Henzen (Luzern)
- 17 **Insulinoma in childhood – prone to be misdiagnosed**  
T. Gozzi Graf, M. Brändle, Th. Clerici, D. l'Allemand (St. Gallen)
- 18 **Testis developmental genes expression in cryptorchid boys risking azoospermia**  
F. Hadziselimovic, N.O. Hadziselimovic, P. Demougin, E.J. Oakeley (Liestal, Basel)
- 20 **Severe diabetic gastroparesis – successfully treated with aprepitant**  
Tomas Karajan, Christian Schandl, and Christoph Henzen
- 21 **How to worm out an unexpected finding in a large adrenal**  
Lipowsky C, Krull I, Fretz Ch, Maier-Woelfle M, Brändle M (St. Gallen)
- 23 **Trends in bariatric surgery in Portugal, 2000–2005**  
Gisela Marcelino, João Melich-Cerveira, Fred Paccaud, Pedro Marques-Vidal (Lisbon, Lausanne)
- 24 **Trends in bariatric surgery in Switzerland, 1998–2008**  
Gisela Marcelino, João Melich-Cerveira, Fred Paccaud, Pedro Marques-Vidal (Lisbon, Lausanne)

- 26 **Overweight and obesity are unevenly distributed among migrants in Switzerland**  
Pedro Marques-Vidal, Peter Vollenweider, Gérard Waeber, Fred Paccaud (Lausanne)
- 27 **Thyroid surgery in eastern Switzerland: who operates, how often and how radically?**  
C.F. Maurus, W. Kolb, N. Kalak, Th. Clerici (St. Gallen)
- 28 **Body image and desire to change weight in the adult Portuguese population**  
João Melich-Cerveira, Gisela Marcelino, Fred Paccaud, Pedro Marques-Vidal (Lisbon, Lausanne)
- 29 **Prevalence of childhood obesity in Switzerland depends on the definition applied**  
João Melich-Cerveira\*, Puder Jardena\*, Gisela Marcelino, Vincent Ebenegger, Iris Niederer, Flavia Bürgi, Susi Kriemler, Pedro Marques-Vidal (Lisbon, Lausanne, Basel)  
\*both authors contributed equally
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- 34 **Heart failure as presenting sign of panhypopituitarism in a child with a microdeletion including the LHX-4 Gene**  
Renner A, Filges I, Röthlisberger B, Glanzmann R, Günthard J, Miny P, Huber A, Zumsteg U, Szinnai G (Basel, Aarau)
- 36 **A first approach towards a food monitoring system for diabetes diet management**  
Luca Scarnato, Elena Daskalaki, Peter Diem, Stavroula Mouggiakakou (Bern)
- 37 **Prospective assessment of three frequently used blood glucose meters in clinical routine**  
Vanessa Schuler, Thomas Züger, Christoph Stettler, Peter Diem, Emanuel Christ (Bern)
- 40 **Symptomatic hypocalcemia with low PTH related to severe hypomagnesemia  
Two clinical cases**  
Lea Slahor, Emanuel Christ, Rahel Sahli, Christoph Stettler (Bern)
- 41 **Graves' Hypothyroidism**  
Lea Slahor, Stefan Fischli, Christoph Henzen (Luzern)
- 42 **Swiss neuroendocrine tumour (SwissNET) registry: results after 30 months**  
C. Stettler, S. Allemann, E.R. Christ, C. Schwarzenbach, S. Wagner, F. Pralong, F. Forrer, Th. Clerici, W. Kolb, F. Triponez, A. Perren (Bern, Lausanne, Basel, St. Gallen, Geneva)
- 43 **An unusual cause of thyrotoxicosis**  
Regina Streuli, Christian Riklin, Stefan Fischli, Christoph Henzen (Luzern)
- 45 **Meta-analysis of children with Multiple Endocrine Neoplasia Type 2A from 1995–2009: Impact of RET mutation analysis and Consensus Guidelines on age at thyroidectomy over the last 15 years**  
Szinnai G, Sarnacki S, Travagli JP, Schlumberger M, Polak M (Basel, Paris, Villejuif)
- 46 **Predicting a nervus laryngeus non-recurrens preoperatively by ultrasound – an effective tool to avoid nerve damage and postoperative nerve palsy in thyroid surgery**  
S. Zimmermann, W. Kolb, M. Zadnikar, T. Clerici (St. Gallen)