of the MENQOL psychosocial domain was 32.21 (6.9). No significant correlation was obtained between the MENQOL psychosocial domain and nadir CD4 cell count. Nevertheless, we did found a significant correlation between questions 4, 7, and 9 and nadir CD4. An inverse association between question 4 (dissatisfaction with my personal life) and nadir CD4 (rho −.320. p = .028) was obtained. Noteworthy, for questions 7 (accomplishing less than I used to) and 9 (impatient with other people) there is a positive correlation (rho = .295, p = .044 and rho = .312, p = .033, respectively). In our cohort women with HIV showed more dissatisfaction with their personal life with increased immunosuppression. However, the feeling of impatience with other people could reflect other symptoms not related to depression, like anxiety. These findings demonstrate the necessity to study emotional health in women with HIV in Puerto Rico, especially the depressive symptom and how this affects infection status

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NEUROPATTERN: A NEW DIAGNOSTIC TOOL FOR PATIENTS WITH STRESS-RELATED DISORDERS. D. Hellhammer, Department of Psychobiology, Trier University, Trier, Germany.

Stress factors play an important role in physical diseases. Given the tremendous complexity of factors affecting the crosstalk between the brain and the body, there is a broad heterogeneity in the pathogenesis of stress-related disorders among patients, even sharing similar symptoms. In addition, there is a missing covariance between the psychological and biological stress response; thus, subjective patient reports are often misleading. We here introduce "Neuropattern", a newly developed diagnostic tool for clinical practice, allowing an individualized detection of stress effects in bodily diseases. Neuropattern analyzes stress effects on neurobiological interfaces, participating in the communication between the brain and the body. Functional changes of each of these interfaces are assessed by characteristic patterns of concomitant biological, psychological, and symptomatic measures, occurring in consequence of stress. Stressed patients may differentially qualify for one or more of these neuropattern, thus facilitating highly individualized indications for therapeutic treatments.

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INSULIN RECEPTORS AS WELL AS INSULIN ARE PRESENT IN SALIVA AND NASAL MUCUS. R.I. Henkin, I. Velicu, Taste and Smell Clinic, Washington, DC.

We have recently demonstrated insulin presence in saliva and nasal mucus and that levels change in response to physiological and pathological processes. Because of these findings we wished to determine if insulin receptors were also present in saliva and in nasal mucus. We measured insulin receptor concentration (in ng/mL) by colorimetric ELISA 96-plate assay in plasma, saliva, and nasal mucus in fasting and nonfasting states in patients with a variety of diseases. Insulin receptors were present in plasma, saliva, and nasal mucus. In the fasting state in control patients insulin receptor concentration in plasma was 2.3 ± 0.3 (mean ± SEM), whereas in saliva it was 7.1 ± 0.6, significantly higher than in plasma (p < .001). In the fasting state in plasma in patients with controlled diabetes mellitus insulin receptor concentration was 21.0 ± 7.4; in saliva it was 4.0 ± 0.9, significantly lower than in plasma (p < .001). In the nonfasting state plasma insulin receptors in control patients were essentially the same as in the fasting state but in diabetics plasma insulin receptor concentration was decreased in the fasting state; in saliva, in control patients and in diabetics insulin receptor concentration was essentially the same in the fasting or nonfasting state. In nasal mucus in the nonfasting state in control patients insulin receptor concentration was 9.0 ± 1.0, about three times higher than in plasma, slightly higher than in saliva and more than twice as high as compared to diabetics. Insulin concentration relative to insulin receptor concentration in saliva in control patients and diabetics was decreased significantly comparing the nonfasting to the fasting state, whereas insulin itself was increased in both control patients and diabetics. In thin and obese patients there were changes in insulin receptor concentration in plasma, saliva, and nasal mucus relative to their physiological and pathological states. These data demonstrate that both saliva and nasal mucus contain soluble insulin receptors and indicate that these biological fluids can serve as indicators of insulin receptor metabolism. Since these fluids can be obtained with greater ease than can plasma, saliva and nasal mucus can serve as simple, useful, noninvasive indicators of insulin receptor as well as insulin metabolism. This is the first demonstration of insulin receptors in saliva and nasal mucus.

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CEREBRAL PERFUSION IN NEONATES UNDERGOING REPAIR OF COMPLEX CONGENITAL HEART DEFECTS IS DETERMINED BY CARBON DIOXIDE PREOPERATIVELY BUT BY BLOOD PRESSURE POSTOPERATIVELY. J. Henson, K. Krajewski, H. Edmonds, A. Sehic, E. Austin, M. Mitchell, University of Louisville, Louisville, KY.

Background: Preoperative studies of neonates with congenital heart disease have demonstrated that increased pCO_2 results in increased cerebral perfusion, while hyperventilation with lower levels of pCO_2 results in both less cerebral perfusion and pathologic changes on MRI brain scans. However, because hyperventilation with lower levels of pCO_2 is often essential immediately post–neonatal cardiac surgery in order to correct acidosis and promote hemodynamic stability, post–cardiopulmonary bypass ventilatory strategy is both critically important and highly controversial. In order to determine the optimal management strategy in infants undergoing heart surgery, we examined the relationship between mean arterial pressure (MAP), end tidal CO_2 (ETCO2), peripheral oxygen saturation (SaO_2), and left cerebral oxygen saturation (LSaO2) pre– and post–cardiopulmonary bypass in an anatomically homogeneous cohort of neonates undergoing primary complete cardiac repair. **Methods:** 15 neonates with interrupted aortic arch and ventricular septal defect undergoing primary complete repair at Kosair Children's Hospital were enrolled in this study. Serial simultaneous measurements of MAP, SaO_2, $ETCO_2$, and $LSaO_2$ using near-infrared spectroscopy (NIRS Somenetics Inc.) were made at 5-minute intervals pre- and postseparation from cardiopulmonary bypass. Linear and parametric regression analysis was used to look for relationships between percent change in MAP, SaO_2, ETCO2, and $LSaO_2$. **Results:** Pre–cardiopulmonary bypass, changes in cerebral saturation were related to changes in ETCO2 in a linear fashion (R^2 = .421), while there was no observed relationship to MAP (R^2 = .078). Post–cardiopulmonary bypass, changes in cerebral saturation were tightly related to changes in MAP (R^2 = .357) but not to changes in $ETCO_2$ (R^2 = .086). No relationship existed between changes in cerebral saturation and changes in SaO_2 either pre– or post–cardiopulmonary bypass. **Conclusions:** Consistent with theories of cerebral autoregulation, cerebral saturation pre–cardiopulmonary bypass was determined by changes in end tidal CO_2 but not by changes in blood pressure or peripheral oxygenation. However, this relationship was obliterated post–cardiopulmonary bypass, where changes in blood pressure became the major determinate of changes in cerebral saturation. This dysautoregulation may be secondary to cerebral edema or injury occurring during the cardiopulmonary bypass run and suggests that immediately postoperatively a strategy of hyperventilation in order to maintain mean arterial pressure is justified.

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THE QUANTITATIVE VALIDATION OF NONINVASIVE DISEASE ACTIVITY INDICES IN ULCERATIVE COLITIS. P.D.R. Higgins, I. Krokos, J. Leung, M. Schwartz, J. Mapili, E.M. Zimmermann, Department of Medicine, University of Michigan, Ann Arbor, MI.

Background and Aims: There are no validated disease activity measures for ulcerative colitis. Current methods of validation are qualitative and provide no means to compare the validity of different indices. Recent data have suggested that two noninvasive indices for ulcerative colitis, the Simple Clinical Colitis Activity Index (SCCAI) and the Seo Index, can predict clinical outcomes of remission and improvement. We performed a quantitative analysis of the psychometric and performance validity of these indices in the measurement of ulcerative colitis. **Methods:** A longitudinal cohort study of 66 patients with ulcerative colitis was performed at a tertiary care center with repeated measurement of disease activity. Subjects were evaluated with the two noninvasive indices, the St. Mark's Index, and the Inflammatory Bowel Disease Questionnaire. Subjects were also asked at each visit whether they were in remission and at the return visit whether their disease activity had changed. Psychometric validity was evaluated by quantitatively measuring the content, construct, criterion-convergent, and criterion-predictive validity on a 0–1 scale. Performance validity was evaluated by measuring the reproducibility and responsiveness on a 0–1 scale. These items were totaled to provide an overall validity score for each index. **Results:** The two noninvasive indices had good criterion-convergent and criterion-predictive validity and good reproducibility. The SCCAI was weak in its content validity and in its responsiveness. The Seo Index had weaknesses in its content validity, construct validity, and responsiveness. Both indices had fair overall validity scores, and the SCCAI was superior to the Seo Index. **Conclusions:** These two noninvasive indices for ulcerative colitis have fair overall validity and are now the most rigorously validated disease activity indices for ulcerative colitis. Both indices predict the clinical end point of patient-defined remission. These noninvasive indices can lower costs and subject discomfort in future clinical trials. Quantitative evaluation of validity identifies weaknesses in disease activity indices that can be improved and can lead to better indices of disease activity in ulcerative colitis and in other disease states.

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ANTHROPOMETRIC CHARTS FOR ACHONDROPLASIA AND OTHER SKELETAL DYSPLASIAS. J.E. Hoover-Fong,[1,2] J. McGready,[1,3] K.J. Schulze,[1,3] H. Barnes,[2] C.I. Scott,[4] [1]Johns Hopkins University, Baltimore, MD; [2]McKusick-Nathans Institute of Genetic Medicine, Greenberg Center for Skeletal Dysplasias; [3]Bloomberg School of Public Health, Baltimore, MD; [4]AI DuPont Hospital for Children, Wilmington, DE.

Accurate assessment of growth parameters in skeletal dysplasia patients is problematic with current growth curves. Most were constructed from a relatively small number of patients with a paucity of longitudinal data, from multiple clinical settings, using potentially nonstandardized observational methods. Furthermore, the curves were derived from very basic parametric analysis. Of clinical significance, weight-for-age norms are currently unavailable, despite significant negative orthopedic, neurologic, and general health sequelae caused by unrecognized and untreated obesity in the short-stature population. We have collected extensive, longitudinal anthropometric data from medical records of patients with a variety of skeletal dysplasias including achondroplasia, hypochondroplasia, spondyloepiphyseal dysplasia congenita, diastrophic dysplasia, Morquio syndrome, Kniest and metatropic dysplasia. Parameters extracted include weight, length/height, head circumference, upper and lower segments, arm span, chest circumference, inner and outer canthal distance, hand and middle digit length, gender, age, and gestational age. The primary data presented here were from subjects with achondroplasia (n = 334), the most common short-stature skeletal dysplasia, with ≈2,000 data points for height, weight, and head circumference. Age-specific percentiles (5, 25, 50, 75, and 95th) for all parameters were estimated separately for males and females over 0–36 months and 2–20 years, corresponding to the CDC growth curve format for average stature individuals. A 6-month wide "moving window" (± 3 months from age of interest) was used to estimate all age-specific percentiles. Percentiles were then smoothed using a quadratic penalized smoother, with degrees of freedom and smoothing parameter estimated by a semiparametric model approach. The magnitude and longitudinal nature of this retrospective, single-observer cohort study improve the precision of the percentile estimates as compared to all previous studies. Most importantly, novel weight for age charts for patients with achondroplasia are now available for clinical use. This methodology may be easily applied to other confirmed, nonskeletal dysplasia diagnoses to assess growth in these disorders.

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USE OF PROPHYLACTIC ANTICOAGULATION AND THE RISK OF HEPATIC VENO-OCCLUSIVE DISEASE IN PATIENTS UNDERGOING HEMATOPOIETIC STEM CELL TRANSPLANTATION: A SYSTEMATIC REVIEW AND META-ANALYSIS. H. Imran, I.M. Tleyjeh,* A. Zirakzadeh,** V. Rodriguez, S.P. Khan, Division of Pediatric Hematology/Oncology, *Division of Infectious Diseases, and the **Division of General Internal Medicine, Mayo Clinic, Rochester, MN.

Context: Hepatic veno-occlusive disease is one of the most serious regimen-related toxicities in patients undergoing hematopoietic stem cell transplantation. The prophylactic use of anticoagulation remains controversial. **Objective:** To perform a systematic review and meta-analysis of the literature on the effect of anticoagulation in preventing veno-occlusive disease. **Data Sources:** *MEDLINE, EMBASE,* and several other databases were searched. **Study Selection:** We identified randomized controlled trials and cohort studies that compared the use of unfractionated heparin or low-molecular-weight heparin for prevention of veno-occlusive disease with a nontherapeutic control in children and adults undergoing hematopoietic stem cell transplantation. **Data Extraction:** Two investigators independently identified eligible studies and assessed their quality. **Data Synthesis:** Twelve studies were eligible, with a total of 2,782 patients. Anticoagulation prophylaxis was associated with a statistically nonsignificant decrease in the risk of veno-occlusive disease (pooled rel-