IRSSD 2010 - Preliminary Program

Wednesday June 30, 2010

Pre-meeting on Clinical applications of 3D technologies and research in biomechanics, biology and genetics of scoliosis

Sainte-Justine University Hospital Center, Justine-Lacoste Auditorium, 3175 Cote-Sainte-Catherine Rd

12h30 – 13h00 Registration

13h00 – 14h15 Presentations
   - Musculoskeletal Axis of excellence at Sainte-Justine University Hospital (H. Labelle)
   - Translation of research results to clinical applications: example of the EOS system (J.A. de Guise)
   - Operating room of the future (C.E. Aubin)
   - What are the needs from the surgical side? (Surgeon TBC)
   - What are the challenges for the valorization of university research results? (Alain Moreau)

14h15 - 14h45 Break

14h45 Clinical set-up and applied research facilities

   Tour 1:
   A- URCO (Orthopaedic Clinic Research Unit) – H. Labelle, M. Roy-Beaudry, J. Joncas
   B- EOS low-dose system, Flexibility testing and 3D reconstruction – S. Deschênes, J.A. de Guise, Y. Petit
   C- Brace treatment, simulation and evaluation – C.E. Aubin, J. Clin
   D- Surface topography and non-invasive technologies – F. Cheriet, P. Debanné

   Tour 2:
   E- From genes to patients – A. Moreau
   F- Mechanobiology, spine growth and estrogens – I. Villemure, F. Moldovan
   G- Surgery simulation – X. Wang
   H- Experimental Surgery / Biophotonic – S. Parent/ C. Boudoux

16h45 Ajournement
IRSSD Main Conference

Wednesday June 30, 2010

17h00 – 19h15 Registration
18h45 Welcome reception – Intercontinental Montreal
20h30 Board meeting dinner

Thursday July 1, 2010

7h30 – 16h00 Registration
8h30 – 8h40 Welcome address (CE Aubin)
8h40 – 9h25 Keynote speaker #1: to be confirmed
9h25 – 10h25 Scientific Session #1 – Genetics and Etiology 1
1- 3D spine morphologic differences at first visit between non evolutive and evolutive adolescent idiopathic scoliosis (Nault ML, Parent S, Roy-Beaudry M, de Guise J, Labelle H)
2- Affected first-degree relatives is a risk factor for curve progression in subjects with adolescent idiopathic scoliosis (Yeung HY, Tang NL, Hung VW, Lam TP, Lee KM, Ng BK, Qiu Y, Cheng JC)
3- Elucidating the roles for Chd7 and Chd2 in zebrafish spine development (Nicole Jacobs and R. Craig Albertson)
4- Recent advances in studying of Adolescent Idiopathic Scoliosis (AIS) candidate genes (Fendri K, Patten S, Parent S, Gaillet B, Labelle H, Edery P, Moldovan F.)
5- Abnormal Melatonin Receptor Expression in Girls with Adolescent Idiopathic Scoliosis (Man GCW, Yeung HY, Wang WJ, Lee KM, Ng BK, Wang H, Ng TB, Qiu Y, Cheng JCY)
6- The Role of Transcription Factor Pitx1 in Adolescent Idiopathic Scoliosis (Lakshmi Suvarnan, Nancy Karam, Cynthia Picard., Da Shen Wang, Maryam Taheri, Benoit St-Jacques, Alain Moreau)

10h25 – 10h50 Break & poster session
10h50 – 12h00 Scientific Session #2 - Biomechanics, Movement and Posture 1
7- Comparisons of Trunk and Spine Deformity in Adolescent Idiopathic Scoliosis (Brandon B. Carlson, Douglas C. Burton, Marc A. Asher)
8- Rib Length Discrepancy in Patients with Adolescent Idiopathic Scoliosis (Yong Qiu, Guang-quan Sun, Wei-jun Wang, Ze-zhang Zhu, Zhen Liu, Xu Sun)
9- Pre-existent vertebral rotation in the human spine depends on body position. (M.M.A. Janssen, K.L. Vincken, B. Kemp, M. Obradov, M. de Kleuver, M.A. Viergever, R.M. Castelein, L.W. Bartels)
10- Evaluation of reducibility of trunk asymmetry in lateral bending (Debanné P, Pazos V, Labelle H, Cheriet F)
11- Identifying the Best Surface Topography Parameters for Detecting Idiopathic Scoliosis Curve Progression (Eric C. Parent, Swathi Damaraju, Douglas L. Hill, Edmond Lou, Daniel Smetaniuk)
12- Intra-operative determination of the three dimensional load-displacement behavior of scoliotic motion segments (Christoph Reutlinger, Gédet Philippe, Jens Kowal, Jürgen Burger, Carol Hasler, Philippe Büchler)
13- Optimization of Patient Positioning for Scoliosis Surgery on a Multi-Functional Positioning Frame (Christopher R. Driscoll; Carl-Eric Aubin; Jean Dansereau; Hubert Labelle)

12h00 – 13h00 Lunch
13h00 – 14h30 Scientific Session #3 – Treatment 1
14- Factors affecting Distal End and Global Decompensation in Coronal and Sagittal Planes 2 years after Fusion for Adolescent Idiopathic Scoliosis (David P. Roye, Jr., Omar Jameel, Hiroko Matsumoto,
Frank J. Schwab, Joshua E. Hyman, Michael G. Vitale)
15- Coupling between sagittal and frontal plane deformity correction in idiopathic thoracic scoliosis and its relationship with post-operative sagittal alignment (Keith D. Luk FHKAM; S Vidyadhara; DS Lu MD,; YW Wong, FHKAM; WY Cheung, FHKAM; Kenneth MC Cheung )
16- A new surgical technique for rib hump correction  (N. Suzuki, K. Kon)
17- Clinical Effectiveness of School Screening for Adolescent Idiopathic Scoliosis: A Large Population-Based Retrospective Cohort Study (Keith D. K. Luk, C. F. Lee, Kenneth M. C. Cheung, Jack C. Y. Cheng, Bobby K. W. Ng, T. P. Lam, K. H. Mak, Paul S. F. Yip, Daniel Y. T. Fong)
18- Brace Prescription Patterns in Patients Referred to Orthopaedic Clinics for Adolescent Idiopathic Scoliosis (AIS) (Aïssatou Fall, Marie Beauséjour, Marjolaine Roy-Beaudry, Lise Goulet, Hubert Labelle)
19- Widely used European braces for conservative scoliosis treatment (Theodoros B. Grivas, Angelos Kaspiris)
20- Could Brace Treatment Influence The Flexibility and Curve Correction of Adolescent Idiopathic Scoliosis? (Wen-jun Liu, Yong Qiu, Xu Sun, Bang-ping Qian, Zhen Liu, Hao Shu, Xin-hua Wang, Chao Sun)
21- Influence of Bracing and Elastic Belt on Sagittal Profile in Adolescent Idiopathic Scoliosis (Jun Jiang, Yong Qiu, Bang-ping Qian, Sai-hu Mao, Qing-hua Zhao, Zhu Feng)
22- Immediate correction in brace treatment: how much is needed to obtain a long-term effectiveness? (Julien Clin, Carl-Éric Aubin, Hubert Labelle, Stefan Parent)

14h30 – 14h50 Break & poster session
14h50 – 16h00 Round table #1: “Biology, Genetics and Animal Models for Idiopathic Scoliosis: Where are we in 2010?”
Moderator: Alain Moreau

“What have we learned about AIS from pinealectomised chickens and bipedal mice - and where do we go from here?” (Dr. Keith M. Bagnall, Professor, Department of Anatomy, Faculty of Medicine and Health Sciences, United Arab Emirates University, Al Ain, United Arab Emirates)

“Guppy and Medaka fish models to decipher Idiopathic Scoliosis Genetics”
(Dr. Kristen Fay Gorman, Postdoctoral Fellow, Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia, Canada)

“Vestibular Asymmetry as the Cause of Idiopathic Scoliosis: A Possible Answer from Xenopus”
(Dr. Pierre-Paul Vidal, Professor & Director Centre d’Étude de la Sensorimotricité, Université Paris Descartes - CNRS - UMR 8194, Paris, France)

16h00 Adjourn
17h45 Banquet

Friday July 2, 2010

8h15 – 16h00 Registration
9h00 – 10h00 Scientific Session #4 – Imaging 1
23- Improvements in Three-Dimensional Back Contour After Spinal Fusion For Idiopathic Scoliosis (Michael Trawicki, Xue C. Liu, Channing Tassone, and John Thometz)
24- Simple technique to evaluate thorax asymmetry: clinical usefulness to assess respiratory movements in scoliosis (Tomasz Kotwicki, Iwona Zielinska-Kaszubowska, Andrzej Szulc)
25- Non-rigid Surface Shape Registration to Monitor Change in Back Surface Topography (Harvey Mitchell, Kim Siang Ang)
26 - Application of 3-D ultrasound in assisting the fitting procedure of spinal orthosis to patients with adolescent idiopathic scoliosis (Li M, Cheng J, Ying M, Ng B, Zheng YP, Lam TP, Wong Wy, Wong MS)
27 - Design and Evaluation of an MRI Compatible Axial Compression Device for 3D Assessment of Spinal Deformity and Flexibility in AIS (Clayton J Adam, Maree T Izatt, Geoffrey N Askin)
28 - Coupling 2D/3D registration method and statistical model to perform 3D reconstruction from partial x-rays images data (Thierry Cresson, Rammnada Chav, Dominic Branchaud, Ludovic Humbert, Benoit Godbout, Benjamin Aubert, Wafa Skalli, Jacques A. de Guise)

10h00 – 10h30 Break & poster session

10h30 – 11h30 Scientific Session #5 - Biomechanics, Movement and Posture 2
29 - Biomechanical analysis of different fusionless growth sparring instrumentation systems for the early treatment of idiopathic scoliosis (Mark Driscoll, Carl-Éric Aubin, Alain Moreau, Stefan Parent)
30 - Characterization of in vivo vertebral growth modulation by shape memory alloy staples on a porcine model for the correction of scoliosis (Wakula Yaroslav, Stefan Parent, Isabelle Villemure)
32 - Gait in adolescent idiopathic scoliosis. Kinematics, electromyographic and energy cost analysis. (Mahaudens P, Mousny M, Banse X, Detrembleur C)
33 - Quantification of intervertebral efforts during gait: comparison between subjects with different scoliosis severities. (Raison M., Aubin C.E., Detrembleur C., Fisette P., Mahaudens P., Samin J.C.)
34 - Adolescents with Idiopathic Scoliosis Spinal Range of Motion Compared to Age-Matched Controls (Adam Graf, Peter Sturm, Kim Hammerberg, Sahar Hassani, Joseph Krzak, Mary Riordan, Kristen Zaharski, Gerald Harris)

11h30 – 12h15 Keynote speaker #2 – Dr Pierre Roussouly, Lyon, France
Analysis of posture for the assessment & treatment of scoliosis

12h15 – 13h15 Lunch

13h15 – 14h15 Scientific Session #6 – Growth and Metabolism 1
35 - The Contribution of Asymmetric Growth and Remodeling to Apical Vertebral Wedging in Scoliosis (David D Aronson, Ian A Stokes, Carole McBride)
36 - Porcine scoliosis model based on animal growth created with non invasive offset tethering (Thierry Odent, Thibault Cachon, Bertrand Peultier, José Gournay, Erwan Jolivet, Caroline Elie, Eric Viguier)
37 - Growth modulation of the thoracic cage in a fetal ovine model: a feasibility study. (Parent, S., Bouchard, S., Carrier, D., Newton, P.)
38 - Construction of Pubertal Growth Curve in Healthy Chinese Children (Hai-bo Li, Yong Qiu, Wei-jun Wang)
39 - Association between Asporin, Tissue Inhibitor of Metalloproteinase-2 and Insulin-like Growth Factor-1 Receptor Gene Polymorphism with Female Adolescent Idiopathic Scoliosis (Wen-jun Liu, Jun Jiang, Yong Qiu, Zhi-jun Chen, Bang-ping Qian, Zhen Liu, Hao Shu, Xin-hua Wang, Chao Sun)

14h15 – 14h45 Break & poster session

14h45 – 15h55 Scientific Session #7 – Genetics and Etiology 2
41 - Heritability of scoliosis in the Swedish Twin Registry (Anna Grauers, Iffat Rahman, Paul Gerdhem)
42 - Decreased circulating Matrilin-1 levels in adolescent idiopathic scoliosis (Bing Wang, Zhi-jun Chen,
Yong Qiu, Wen-jun Liu)

43- Abnormal Expression of Runx2, RANKL and Osteoprotegerin in Osteoblasts from Adolescent Idiopathic Scoliosis (Chao Sun, Gang Yin, Hiu-yen Yeung, Nelson L.S. Tang, Jack C.Y.Cheng, Yong Qiu)

44- Promoter Polymorphism of Neurotrophin 3 is Associated with Curve Progression of Adolescent Idiopathic Scoliosis: A Case-control Study in a Chinese Han Population (Sai-hu Mao, Yong Qiu, Bang-ping Qian, Zhen Liu, Jun Jiang, Wei-wei Ma, Qing-hua Zhao)

45- Familial Kyphoscoliosis: Association with the IRX Homeobox Gene Family (Nancy H Miller, Cristina M Justice, Pedro D Cruz, Baishali Maskeri, Jim C Mullikin, Kandice Swindle, Alexander F Wilson)

46- The Role of Tyrosine Phosphatase-x in the Etiopathogenesis of Adolescent Idiopathic Scoliosis (Mohamed Elbakry, Maryam Taheri, Sadallah Bouhanik, Marie-Yvonne Akoume, Bouziane Azeddine, Isabelle Turgeon, Anita Franco, Alain Moreau)

47- Molecular Profiling of Adolescent Idiopathic Scoliosis: Toward a Comprehensive Understanding of AIS Aetiology (Alain Moreau, Qing Yuan, Nancy Karam, Lakshmi Suvarn., Maryam Taheri, Bouziane Azeddine., DaShen Wang, Sadallah Bouhanik, Guoruey Wong, Isabelle Turgeon, Benoit St-Jacques)

15h55 – 16h45 Round Table: Analysis of posture for the assessment & treatment of scoliosis

Moderator: Carl-Eric Aubin

Panelists: Pierre Roussouly, France

Thierry Haumont, France (to be confirmed)

Virginie Lafage, USA (to be confirmed)

16h45 Adjourn

18h15 Jazz Cocktail

Saturday July 3, 2010

8h00 – 16h00 Registration

8h30 – 9h20 Scientific Session #8 – Growth and metabolism 2

48- Relationship between compression loading and biochemical composition of Swine growth plates (Samira Amini, Daniel Veilleux, Jun Sun, Caroline D. Hoemann, Isabelle Villemure)

49- Composition, matrix synthesis and gene expression changes in rat tail model of intervertebral disc wedging model of scoliosis. (Ian A.F. Stokes, Carole McBride, David D. Aronsson, Peter J. Roughley)

50- Response of Growth Plate Explants under Static and Dynamic Loading: A Histomorphological Study (Sergerie, K; Beauchemin, P-F; Moldovan, F; Parent, S; Villemure, I)

51- Pathogenesis of adolescent idiopathic scoliosis (AIS) in girls. A double neuro-osseous theory involving disharmony between two nervous systems, somatic and autonomic expressed in the spine and trunk: possible dependency on sympathetic nervous system and hormones with implications for medical therapy (Burwell RG, Aujla RK, Grevitt MP, Dangerfield PH, Moulton A, Randell TL, Anderson S)

52- Normal juvenile girls and boys: evidence suggesting central controls for energy allocation to skeletal development of girls differ from boys which, in dysfunction, predispose girls to adolescent idiopathic scoliosis (AIS) (Burwell RG, Aujla RK, Randell TL, Dangerfield PH, Moulton A)

9h20 – 10h20 Scientific Session #9 – Imaging 2

53- Using ultrasound to guide the insertion of pedicle screws during scoliosis surgery (E Lou, Zhang Chan, Lawrence H. Le, D Hill, J Raso, M Moreau, J Mahood, D Hedden)

54- 2D/3D registration of pre-operative MRI models with a single radiographic image: feasibility study (C. Chevreuil, L. Duong, F. Cheriet, S. Parent, C.E. Aubin)
55- Is There Any Difference in Cortical Thickness in Patients with Adolescent Idiopathic Scoliosis and Normal Controls? (Chu WCW, Shi L, Wang D, Heng PA2, Cheng JCY)
56- Can the MRI signal intensity distribution within the intervertebral disc be used to analyze the disc pathology and severity? (Julien Gervais, Delphine Périé, Carl-Éric Aubin)
57- An Handheld Probe based on Optical Coherence Tomography for Minimally Invasive Spine Surgeries: A Feasibility Study (Kathy Beaudette, Caroline Boudoux, Mark Driscoll, Mathias Strupler, Lionel Carrion, Romain Maciejko, Carl-Éric Aubin)
58- 3D visualization tool for minimally invasive discectomy assistance (Martin Bisson, Farida Cheriet, Stefan Parent)

10h20 – 10h45 Break & poster session

10h45 – 11h45 Round Table: Approaches for AIS surgical cases
Moderator: Hubert Labelle
Panelists: Nobumasa Suzuki, Japon
Pierre Roussouly, France
Kenneth Cheung, Chine
Stefan Parent, Canada

11h45 – 12h30 Business meeting
12h30 – 13h30 Lunch

13h30 – 14h50 Scientific Session #10 - Biomechanics, Movement and Posture 3
59- Excess of dorsally directed shear loads acting on a pre-rotated growing spine: a hypothesis on the pathogenesis of idiopathic scoliosis.(René M Castelein, Michiel MA Janssen)
60- Are there posturographic parameters, which could predict the progression of adolescent idiopathic scoliosis? (Thierry Haumont, Gérome C. Gauchard, Alexis Lion, Philippe P. Perrin, Pierre Journeau, Pierre Lascombes)
61- An integrated procedure for spine and full skeleton multi-sensor biomechanical analysis & averaging in posture gait and cyclic movement tasks (M. D'Amico; G. D'Amico; P. Roncoletta; M. Tomassini; F. Ciarrocca; M. Paniccia M. Vallasciani)
63- Vestibulomotor activity in adolescent idiopathic scoliosis: preliminary results (Jean-François Connan, Jean Blouin, Normand Teasdale, Martin Simonneau)
64- Evaluation of finger and hand dexterity in idiopathic scoliosis (Dana Mihaila; Blair Calancie)
65- Gender Difference of Curve Pattern in Adolescent Idiopathic Scoliosis with Small Curve Magnitude (Ze-Zhang Zhu, Chao Sun, Yong Qiu, Hao Shu, Zhen Liu, Xinhua Wang, Feng Zhu, Bing Wang)
66- Prevalence of spondylolisthesis in a population of gymnasts (Jean-Marc Mac-Thiong, Hubert Labelle, Charles-William Toueg, Benoit Poitras, Stefan Parent, Guy Grimard, Julie Joncas)

14h50 – 15h20 Break & poster session

15h20 – 16h30 Scientific Session #11 – Treatment 2
67- Pedicle screw fixation strategies of the thoracic curve in adolescent idiopathic scoliosis (AIS) (Kenneth MC Cheung, Dino Samartzis, Deepa Natarajan, Kenny Kwan, Wai-Yuen Cheung, Jingfeng Li, Yat-Wa Wong, Lawrence Lenke, Keith DK Luk)
69- Converting the SRS-24, SRS-23 and SRS-22 to the SRS-22r: Establishing Conversion Equations using Regression Modeling (Riazi, Mariam; Burton, Doug C.; Lai, Sue-Min; Carlson, Brandon; Asher, Marc A)
70- Classification of adolescent idiopathic scoliosis using Kohonen Self-Organizing Maps (Phan, Philippe;
Mezghani, Neila; De Guise, Jacques A.; Labelle, Hubert)
71- Development and Initial Validation of a Disease Specific Outcome Measure for Early Onset Scoliosis (Michael G Vitale, Jacqueline Corona, Hiroko Matsumoto, Javier Avendano, David P Roye)
72- Radiological and clinical outcome of non surgical management for pediatric high grade spondylolisthésis (Étienne Bourassa-Moreau, Hubert Labelle, Jean-Marc Mac-Thiong)
73- Clinical significance of lombosacral kyphosis in developmental spondylolisthésis (Tanguay Frédéric; Mac-Thiong Jean-Marc; Wang Zhi; de Guise Jacques A.; Labelle Hubert)
74- Does an internal thoracoplasty prevent a reassertion of back shape deformity following spine surgery for adolescent idiopathic thoracic scoliosis (AIS)? (M J McMaster, M E McMaster)

16h30 Closing remarks
16h45 End of meeting
Poster sessions

Biomechanics, Movement and Posture

1. Influence of experimental protocols and mathematical modelling on the mechanical proprieties of the intervertebral disc
   M. Recuerda, SP. Coté, I. Villemure, D. Périé
2. Scoliotic vs Normal vertebral growth profiles on the progression of idiopathic scoliosis: a biomechanical study
   Lin Shi, Defeng Wang, Mark Driscoll, Winnie CW Chu, Isabelle Villemure, Jack CY Cheng, Carl-Eric Aubin
3. Pelvic alignment and leg discrepancy in adolescents with idiopathic scoliosis (AIS)
   Saba Pasha, Archana P. Sangole, Carl-Eric Aubin, Jean-Marc Mac Thiong, Hubert Labelle, Stefan Parent
4. Biomechanical Model of Postural Control for the Analysis of Spinal Fusion Surgery in Adolescents with Idiopathic Scoliosis
5. Design and Measurement of an In Vitro Torque Device in Ox-Tails
   R. Rizza, Xue C. Liu, J. Thometz, C. Tassone, and R. Lyon
6. Influence of the loading rate, kyphosis angle and vertebral segment level on fracture pattern, spinal instability and canal encroachment.
   Boisclair, Dominic; Mac-Thiong, Jean-Marc; Parent, Stefan; Petit, Yvan
7. Shoulder Imbalance in The Axial Plane of Thoracic Adolescent Idiopathic Scoliosis
   Yong Qiu, Guang-quan Sun, Wei-jun Wang, Ze-Zhang Zhu, Zhen Liu, Xu Sun
8. Effect of surgery on gait in adolescent idiopathic scoliosis.
   Mahaudens P, Mousny M, Banse X, Detrembleur C
9. Discriminative ability of 8 new surface features describing rib cage deformity in scoliosis
   Mahdieh Emrani, Doug Hill, Eric Parent & Elise Watkins
    T.M.L. Shannon
11. Range of Movement (ROM) of various segments in the spine and back: Normative values from a new marker set
    N Chokalingam, T Larose Chevalier, E Ahmed, P Dangerfield
    Van Looon PJM; Soeterbroek A; Thunnissen FB
13. A Study on the Validity and Reliability of the Chinese Version of Spinal Appearance Questionnaire
    TP Lam, Ajax HY Lau, KL Liu, YK Tse, HY Yeung, BKW Ng, JCY Cheng
14. The Quantification of Volumetric Asymmetry by Dynamic Surface Topography.
    T.M.L. Shannon
15. Effect of Trunk Position on Spinal Topography Measurements Using Newly Developed System
    Rankine, Leah, Liu, Xue C., Tassone, Channing, Tarima, Sergey, Thometz, John, and Lyon, Roger
    Thierry Haumont, Gérome C. Gauchard, Pierre Lascombres, Pierre Journeau, Philippe P. Perrin
17. Implantable Wireless Sensor Platform to Monitor Loads during and after Scoliosis Surgery
    Daniel Zbinden, Edmond Lou , N.Durdle
    Xiaoyu Wang, , Carl-Eric Aubin, Hubert Labelle, Dennis Crandall oui je l’ai dans mon fichier, mais pas confirmé son format

IMAGING:

19. Reproducibility of bone density assessed using quantitative computed tomography
20. Fast 3D reconstruction of the spine by non-expert users using a statistical articulated model
    Daniel C. Moura; Jonathan Boisvert; Jorge G. Barbosa; João Manuel R. S. Tavares; Hubert Labelle
21. Postoperative appearance simulation of the external outcome of spine surgery: preliminary results
    O. Dionne, C. K. Assi, F. Guibault, H. Labelle, F. Cheriet
22. Using Ultrasound to Assess the Spinal Deformity
    E. Lou, D Hill1, Lawrence H. Le, J Raso, M Moreau, D Hedden, J Mahood
23. Can Spine Sagittal Measures be Assessed Dependably from MRI?
    Michael G. Vitale; Javier Avendano; Omar F. Jameel; Hiroko Matsumoto; Benjamin D. Roy; Joshua E. Hyman; David P. Roye
24. Correlations between the back surface rotation and the vertebrae and ribs axial rotations in patients with scoliosis
    Lama Seoul, Farida Cheriet, Hubert Labelle, Jean Dansereau
25. A Web-Based Tool for Visualizing Scoliotic Trunk Surfaces Variations
Jonathan Boisvert, Farida Cheriet, Chang Shu, Pengcheng Xi, Hubert Labelle
26. Quantitative Estimation of Bone Morphology from the Multi-Scale Analysis of Computed Tomography Images
   Levasseur A. Touzin M., Simard P., Gloaguen E., Ploeg H.-L., Petit Y.
27. Vertebral Shape Analysis using Multi-scale Shape Parameters and Statistical Regression
   Rami Zewail, Ahmed Elsafi, and Nelson Durdle
28. Automated Calibration of Stereo Camera Systems for Imaging Scoliosis Patients
   Anish Kumar, Dr. Nelson Durdle
29. Shape from stereo with application to scoliosis screening
   Ahmed Elsafi, Nelson Durdle
30. Relationship between position of cerebellar tonsil and abnormal somatosensory evoked potentials in adolescent idiopathic scoliosis
   Yong Qiu, Zhi-jun Chen, Ze-zhang Zhu, Bang-ping Qian, Bing Wang, Yang Yu, Feng Zhu, Xu Sun, Wei-wei Ma

**TREATMENT:**

31. Structural Analysis in a Manifold Space of the Three-Dimensional Spine Shape in Adolescent Idiopathic Scoliosis
   Samuel Kadoury; Stefan Parent, Hubert Labelle
32. Pedicle Screw Placement in Pediatric Scoliosis Surgery: Do non-idiopathic patients have higher misplacement rates?
   Michael G. Vitale; David M. Privitera; Jaime A. Gomez; Hiroko Matsumoto; Steve A. Klinge; Jacqueline Corona; Joshua E. Hyman; David P. Roye
33. Scoliometer measurements are sensitive to non-level pelvis: implications for scoliosis screening
   Tomasz Kotwicki, Agnieszka Kubiak, Andrzej Szulc CONFIRMÉ E-POSTER
34. Does Intraoperative Electromyography Monitoring Result in Lower Misplacement Rates in Pediatric Spinal Deformity Surgery?
   Michael G. Vitale; Omar F. Jameel; Benjamin D. Roye; Hiroko Matsumoto; Jaime A. Gomez; Selina C. Poon; Joshua E. Hyman; David P. Roye
35. Costs of School Scoliosis Screening: A Large Population-based Study
36. A meta-analysis of the clinical effectiveness of school scoliosis screening
37. Nickel ion level in scoliotic patients implanted with nitrogen plasma surface modified nickel-titanium superelastic spinal implant: Preliminary clinical trial results
   KWK Yeung, WN Lam, D Natarajan, SL Wu, H Tu, PK Chu, CY Chung, WW Lu, KDK Luk, KMC Cheung
38. Surgical Treatment of Scoliosis Associated with Rare Diseases: Scoliosis in Arthrogryposis
39. Back pain in adolescent with idiopathic scoliosis
   Smigiel ska M., Czernicki K., Durmala J.
40. Effectiveness and Quality of Life of a New TLSO compared with the Boston Brace
   J. Hermus, M. Hulsbosch, N. Guillemont, L. v. Rhijn (to be confirmed)
41. Selection of fusion levels in adolescent idiopathic scoliosis (AIS) using the fulcrum bending radiograph prediction: verification based on pedicle screw strategy
   Kenneth MC Cheung, Deepa Natarajan, Dino Samartzis, Yee Leung, Wai-Yuen Cheung, Yat-Wa Wong, Keith DK Luk
42. A longitudinal study on the growth of fusion mass in posterior spinal fusion with advance high-resolution peripheral quantitative computed tomography Preliminary findings
   Celine F Hui, Hiu Yan Yeung, Chuen Wai Chan, Kwong Man Lee, Ling Qin, Gang Li, Yun Yu Hu, Jack Chun-yiu Cheng
43. Baseline values of gene expression levels for cultured chondrocytes intended for implantation during repair of articular cartilage should be obtained from chondrocytes in situ.
   K. M. Bagnall, J. Bater, C. Secretan, R. Bailey, N. Jomha
44. The importance of cell density during the culture of chondrocytes for the repair of articular cartilage
   K. M. Bagnall, J. Bater, C. Secretan, R. Bailey, N. Jomha
45. Developing the Maastricht brace with pressure measurements
   J. Hermus, M. Hulsbosch, C. Arts, L. v Rhijn (to be confirmed)
46. Restoration of the natural thoracolumbar lordosis in conservative and operative treatment of spinal deformities.
   Van Loom PJM; Roukens M; Thunnissen FB
47. C1 lateral mass screw fixation in children: Indications, outcomes, and technique in 11 consecutive patients
   Firoz Miyanji, Kishore Mulpuri, Davor Saravanja, Peter O. Newton, Christopher W. Reilly
   Chayanin Angthong, Cholavech Chavasiri, Thanet Watthanaapisith
Genetics and Etiology:

49. Study of somatosensory evoked potentials in adolescent idiopathic scoliosis with different curve magnitudes
   Yong Qiu, Zhi-jun Chen, Ze-zhang Zhu, Bang-ping Qian, Bing Wang, Yang Yu, Feng Zhu, Xu Sun, Wei-wei Ma

50. In normal girls and boys, body mass index (BMI) subsets reveal energy priority of trunk width growth and in the limbs of boys:
   central mechanisms may have enabled human bipedalism which, in dysfunction, predisposed girls to AIS.
   Burwell R Geoffrey, Ranjit K Aujla, Greivitt Michael P, Tabitha L Randell, Peter H Dangerfield, Alan Moulton

51. Pathogenesis of adolescent idiopathic scoliosis (AIS) in girls. A double neuro-osseous theory involving disharmony between two
   nervous systems, somatic and autonomic expressed in the spine and trunk: possible dependency on sympathetic nervous system
   and hormones with implications for medical therapy.
   Burwell, R Geoffrey, Aujla Ranjit K, Greivitt Michael P, Dangerfield Peter H, Moulton Alan, Randell Tabitha L, Anderson Susan

Growth and Metabolism:

52. Systemic Gi Protein-Mediated Signal Transduction Impairment Occurs in Patients with Adolescent Idiopathic Scoliosis
   Marie-Yvonne Akoume, Isabelle Turgeon, Anita Franco, Ginette Larouche, Ginette Lacroix, Alain Moreau

53. Disproportionate Endochondral-membranous Bone Growth in Peripheral Bone of Girls with Adolescent Idiopathic Scoliosis
   Yeung HY, Lam TP, Wang WW, Hung VW, Qin L, Lee KM, Qiu Y, Cheng JCY

54. Modulation role of Melatonin in human endochondr al ossification
   Guang-Quan Sun, William Wei-jun Wang, Benson Hiu-yan Yeung, Gene Chi-wai Man, Kwong-man Lee, Tzi-bun Ng, Yong Qiu, Jack
   Chun-yiu Cheng

55. Expression and Significance of BMP-2 in Osteoblasts from Scoliosis Patients with Neurofibromatosis Type1
   Hao Shu, Yong Qiu, Chao Sun, Zhen Liu, Xin-hua Wang, Wen-jun Liu, Yang Yu

56. Abnormal Endochondral Ossification in Patients with Adolescent Idiopathic Scoliosis: Histomorphometric Study of Iliac Cartilages
   Xin Zheng, Yong Qiu, Bang-ping Qian, Yu Wang, Wei-jun Wang, Feng Zhu

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