

SOUVENIR PROGRAMME & ABSTRACT BOOK



APSS Dhaka Spine Operative Course

13 to 15 MARCH 2018

— VENUE —

National Institute of Traumatology &
Orthopaedic Rehabilitation (NITOR)





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NATIONAL ORGANIZING COMMITTEE

BANGLADESH SPINE SOCIETY EXECUTIVE COMMITTEE

<i>President</i>	<i>Prof Dr Khondker Abdul Awal (Rizvi)</i>
<i>Vice-Presidents</i>	<i>Dr Fazlul Hoque</i> <i>Dr Md Kamrul Ahsan</i>
<i>Secretary General</i>	<i>Dr Md Shah Alam</i>
<i>Treasurer</i>	<i>Dr Syed Shahidul Islam</i>
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SOCIAL WELFARE & CULTURAL

<i>Secretary</i>	<i>Dr A K M Zahir Uddin</i>
<i>Members</i>	<i>Dr M Idris Ali</i> <i>Brig Gen (Dr) M Nuruzzaman</i> <i>Col (Dr) Md Abdul Awal Bhuiyan</i> <i>Dr M Ishaque Bhuiyan</i> <i>Dr Md Monjurul Hoque Akonda Chowdhury</i> <i>Dr Md Abdul Gani Mollah</i> <i>Dr Abdur Rob</i> <i>Dr Md Anisur Rahman Labu</i> <i>Dr Monaim Hossen</i> <i>Dr SIM Khairun Nabi Khan</i> <i>Dr Md Jahangir Alam</i> <i>Dr Muhammad Sieful Islam</i> <i>Dr Najmus Sakeb</i> <i>Dr Md Shahidul Islam Khan</i>

ASIA PACIFIC SPINE SOCIETY – EXECUTIVE COMMITTEE



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PRESIDENT ELECT



DR MUN KEONG KWAN
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DR YAT WA WONG
HONG KONG
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DR KUNIYOSHI ABUMI
JAPAN
IMMEDIATE PAST PRESIDENT

MESSAGE FROM THE PRESIDENT OF THE ASIA PACIFIC SPINE SOCIETY



Dear Colleagues and Friends,

It gives me the greatest pleasure to welcome you to join us at the APSS Dhaka Operative Spine Course of the Asia Pacific Spine Society (APSS), which is held at the National Institute of Traumatology & Orthopaedic Rehabilitation (NITOR), Dhaka, from March 13-15, 2018. The APSS is looking forward to interact with spine surgeons from Bangladesh.

The APSS has been holding various basic and advanced operative spine courses in the Asia Pacific region since 1980, and is always eager to reach out to more spine communities in the region. This operative course will provide a constructive and conducive platform for you to enhance the principal and advanced knowledge of pathological conditions of spinal disorders and explore the latest surgical techniques of spinal surgery. With the presence of international and local faculty members, plenty of networking opportunities will be available for you to personally interact with them during the pre-operative discussion, lectures and saw bone workshops during the course. The highlight of the course is the showcase of live surgeries conducted by both our faculty members and local team, in which the surgeries will be transmitted live to the auditorium to facilitate the learning of the surgical techniques. You may look forward to the interesting discussion with the surgeons during and after their operations regarding various surgical techniques including tips and tricks to improve the positive results and to avoid complications during the surgeries.

Alongside the educational program, I encourage you to take time to discover the bustling rhythm of Dhaka and truly embrace this furiously beating heart of Bengali culture. You may take a ride at the back of one of its myriad colorful cycle-rickshaws to uncover Dhaka's charm where the Mughal and British monuments speak of its history and its mosques and Hindu temples of its spiritual side.

On behalf of the APSS, I would like to express my deepest appreciation to the society's official partners, Medtronic, for their unwavering support to our educational activities, and to Miraclus who has come onboard to support this operative course. I wish to also congratulate the local organizing chairman and secretary, Prof Dr Khondker Abdul Awal (Rizvi) and Prof Dr Md Shah Alam, as well as the Bangladesh Spine Society (BSS) Committee, for such a successful partnership in organizing this course.

I welcome you to a memorable experience in Dhaka.

*With warmest regards,
DATO' DR K S SIVANANTHAN
President of the Asia Pacific Spine Society*

MESSAGE FROM THE NITOR'S DIRECTOR AND PRESIDENT OF BANGLADESH ORTHOPAEDIC SOCIETY



It's my immense pleasure to be a part of APSS Dhaka Spine Operative Course, March, 2018. I am honored to extend my honor to Asia Pacific Spine Society for organizing such a prestigious educational program at our National Institution in joint venture with Bangladesh Spine Society. Since its inception, APSS has been working as an educational and scientific forum for the advancement of knowledge in the field of spine surgery, especially in many developing cities in the Asia Pacific. In spite of many insufficiencies of our institutional capacity, we are still striving to develop many super specialties of orthopaedic surgery like Spine, Arthroplasty, Arthroscopy, etc. We are promoting the educational and operative skill by continuous supervised training with our limited facilities.

These courses are successful collaborations of the competent national hosts and enthusiastic APSS faculties. It will provide platform for young surgeons to enhance principal and advanced knowledge of spinal disorders, besides to explore latest surgical techniques through live spine surgeries, lectures, workshops and discussions. I hope that all activities that the APSS is and will be conducting, build momentum towards fulfilling their mission of advancing spine care.

I would like to warmly welcome all of you, young and experienced spine surgeons from home and abroad, to join us in working together for the development of spine surgery in the Asia Pacific region.

I wish all the success of this great occasion.

PROF DR ABDUL GANI MOLLAH
*Director of National Institute of Traumatology &
Orthopaedic Rehabilitation, Dhaka, Bangladesh
President of Bangladesh Orthopaedic Society*

MESSAGE FROM THE LOCAL ORGANIZING CHAIRMAN AND PRESIDENT OF BANGLADESH SPINE SOCIETY



I am extremely happy to see that APSS is organizing its prestigious Operative Spine course for the first time in Dhaka. I welcome you all to the operative course.

Bangladesh is gradually improving in economic and social sectors. The health sector has also undergone significant improvement. The people of Bangladesh expect and truly deserve better health care. However, we are yet to provide health care up to the expectations of our citizens, especially in the field of Spinal surgery.

Unfortunately, we have a limited number of spine surgeons and very limited number of hospitals to handle spinal conditions. Thus, we need an adequate number of trained spinal surgeons and facilities in the country. I hope that this operative course will help the surgeons of Bangladesh and the surgeons of this region to become truly trained spine surgeons.

Finally, I would like to thank the executives of APSS, local organizers, course instructors and the participants for their time and effort to make this program successful.

PROF DR KHONDKER ABDUL AWAL (RIZVI)
Organizing Chairman of the APSS Operative Course 2018
President of Bangladesh Spine Society

MESSAGE FROM THE LOCAL ORGANIZING SECRETARY AND SECRETARY GENERAL, BANGLADESH SPINE SOCIETY



Dear Participants and Colleagues,

Together with my executives, I wish you a very happy, healthy and prosperous life. Indeed, the growth of BSS has been propelled collectively by the committed and dedicated contributions of the spine professionals of Bangladesh. I am humbled, honored and privileged to assume the role of Secretary General of Bangladesh Spine Society, as well as the Local Organizing Secretary of APSS Dhaka Spine Operative Course, March, 2018.

This joint venture with APSS is a great scientific occasion in this region, targeting the young enthusiastic spine surgeons, developing themselves with updated knowledge and skills. As a regional leader of the fraternity of spine surgeons, I am deeply grateful to APSS for organizing this magnificent Operative course on spine surgery in our venue.

I am inspired by their commitment to the spine community for acquiring excellence in professional skill for achieving the goal of up-to-date spine care in this country, as well as internationally. As a partner organization with APSS by combined efforts, we would like to globalize, harmonize and integrate our own strategies for updating our knowledge and techniques. We should collaborate and communicate with our Global partners to build up consensus for a universal strategy of Spine management based on dedicated research and evidence-based practice. We must innovate and strive for excellence by continually identifying and promulgating new ideas to face the unmet challenges of complex disorders spine.

I welcome all the foreign faculties who are leading the global spine community to our venue and taking the trouble of coming here to share their recent knowledge among us, especially our younger group. I congratulate all the participants of this course who have shown their keen interest in spine surgery for their future carrier development. I also express my deep gratitude to NITOR administration, especially the Director, NITOR and BOS for their whole-hearted cooperation for making this program successful.

I wish every success of APSS Dhaka Spine Operative Course March 2018.

DR MD SHAH ALAM

*Local Organizing Secretary of the APSS Operative Course, Dhaka, Bangladesh
Secretary General of Bangladesh Spine Society*

MESSAGE FROM THE SECRETARY GENERAL, BANGLADESH ORTHOPAEDIC SOCIETY



On behalf of the Bangladesh Orthopaedic Society, it's my great pleasure to welcome you all to this high profile educational program APSS Dhaka Spine Operative Course, March 2018, jointly organized by Asia Pacific Spine Society (APSS) and Bangladesh Spine Society (BSS). The scientific topics arranged by the organizing committee are definitely time demanding, interesting and matched up for the context of spine issues of this region.

APSS is an established spine society in the Asia Pacific region with over 400 members advancing the science, art and practice of spine surgery. They are also promulgating the maintenance of professional standards in order to provide the best clinical and social care to patients with spinal problems in the Asia Pacific region.

I would like to congratulate all the participants of this course and the honorable faculties from abroad for their cordial efforts to make this operative course successful. I pay my gratitude to the Local authority for there heartfelt co-operation to arrange this course in this Institute.

I wish every success of APSS Dhaka Spine Operative Course March 2018.

PROF DR SYED SHAHIDUL ISLAM
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PROPOSED CASES FOR THIS OPERATIVE SPINE COURSE

1. **Cervical Spine**
 - a. Anterior Cervical i.e. ACDF or ACCF
 - b. Anterior Cervical i.e. Arthroplasty
 - c. Posterior Cervical Fixation i.e. Lateral Mass or Pedicle Screw Fusion
 - d. Posterior Cervical Decompression i.e. Laminoplasty
 - e. Posterior Cervical C1/2 Fusion
 - f. Posterior Occipitocervical Fusion

2. **Coronal Deformity Correction**
 - a. Adolescent Idiopathic Scoliosis i.e. Posterior Instrumented Spinal Fusion

3. **Sagittal Deformity Correction**
 - a. Ankylosing Spondylitis
 - b. Scheuermann Kyphosis
 - c. Neglected Traumatic Fracture
 - d. TB Spine Kyphosis

4. **Spinal Instability +/- Neurological Deficit for Stabilization +/- Decompression**
 - a. Traumatic Acute Fracture
 - b. Spinal Infection
 - c. Spinal Metastases

5. **Lumbar Spinal Stenosis (LSS)**
 - a. Decompression Alone i.e. Medial Facetectomy, Laminectomy or Internal Laminolasty, Discectomy for HNP
 - b. Decompression and Fusion i.e. Open TLIF, MIS TLIF or DLIF

*The final operative list / cases will be decided on 13th March 2018, during the pre-operative assessment.
8 – 10 cases will be selected from the above list for live surgery telecast during the entire 3-day course.

DAY 1
13TH MARCH 2018 (TUESDAY)

VENUE CONFERENCE ROOM NO. 3, NITOR

0830 – 0900	REGISTRATION OF PARTICIPANTS
0900 – 1200	Pre-Operative Cases Discussion
	1000 – 1015 TEA BREAK [VENUE: New Building, 1 st Floor]
1300 – 1400	LUNCH & PRAYER BREAK [VENUE: New Building, 1 st Floor]
1400 – 1530	SAW BONES WORKSHOP 1 Thoracic Pedicle Screw, Lumbar Pedicle Screw, S1 Screw, Iliac Screw and S2AI Screw Fixation <i>Arvind Jayaswal, Rohit Pokharel</i>
1530 – 1700	SAW BONES WORKSHOP 2 Posterior Instrumentation of Cervical Spine i.e. C1/C2 Fixation, Lateral Mass and Cervical Pedicle Screw Fixation / Anterior Cervical Discectomy Fusion <i>Dato' K S Sivananthan, Kuniyoshi Abumi</i>
1700 – 1715	TEA BREAK [VENUE: New Building, 1 st Floor]
1900	FACULTY DINNER [VENUE: Absolute BBQ BD, Ahmed and Kazi Tower]

DAY 2
14TH MARCH 2018 (WEDNESDAY)

VENUE CONFERENCE ROOM NO. 3, NITOR

0800 – 0830	REGISTRATION OF PARTICIPANTS
0830 – 0900	<p>OPENING CONFERENCE <i>Chaired by Khondker Abdul Awal (Rizvi)</i></p> <ul style="list-style-type: none"> – Welcome Speech by Local Organizing Secretary & Secretary General, Bangladesh Spine Society <i>Md Shah Alam</i> – Speech by Secretary General, Bangladesh Orthopaedic Society <i>Syed Shahidul Islam</i> – Welcome Speech by President, APSS <i>Dato' K S Sivananthan</i> – Speech by the NITOR's Director and President of Bangladesh Orthopaedic Society <i>Md Abdul Gani Mollah</i> – Speech by the Local Organizing Chairman and President of Bangladesh Spine Society <i>Khondker Abdul Awal (Rizvi)</i>
0900 – 0915	TEA BREAK [VENUE: New Building, 1 st Floor]
0915 – 0925	Basic surgical techniques for pedicular screws in upper dorsal scoliosis <i>Muhammad Tariq Sohail</i>
0925 – 0935	Fusion levels in surgical treatment of Adolescent Idiopathic Scoliosis <i>Arvind Jayaswal</i>
0935 – 0945	Upper and Lower cervical spine trauma – Management strategies <i>Kuniyoshi Abumi</i>
0945 – 0955	Surgical management of cervical OPLL : Anterior/posterior <i>Dato' K S Sivananthan</i>
0955 – 1005	Surgical management of thoracic OPLL and OLF <i>Kuniyoshi Abumi</i>
1005 – 1015	Kyphoplasty and Vertebroplasty: Indications & Tips <i>Dennis Hwee Weng Hey</i>
1300 – 1400	LUNCH & PRAYER BREAK [VENUE: New Building, 1 st Floor]
1600 – 1615	TEA BREAK [VENUE: New Building, 1 st Floor]
1900	COURSE DINNER [VENUE: HANGOUT, Rupayan ZR Plaza]
0900 – 1700	<p>LIVE SURGERY <i>(Kindly refer to the OT list attachment which will be distributed)</i></p> <p>Operation Theatre 1 Operation Theatre 2</p>

DAY 3

15TH MARCH 2018 (THURSDAY)

VENUE CONFERENCE ROOM NO. 3, NITOR

0830 – 0850	Discussion and evaluation post-op cases done on DAY 2
0850 – 0900	Clinical signs of cervical myelopathy and surgical principles <i>Kamrul Ahsan</i>
0900 – 0910	Degenerative lumbar stenosis – When is decompression alone adequate? <i>Muhammad Tariq Sohail</i>
0910 – 0920	Surgical management of adult degenerative scoliosis <i>Rohit Pokharel</i>
0920 – 0930	Pathomechanism of degenerative spondylolisthesis and treatment strategy <i>Khondker Abdul Awal (Rizvi)</i>
0930 – 0940	Management of post-TB kyphosis <i>Md Shah Alam</i>
0940 – 0950	Surgical strategies for management of metastatic spinal disease <i>Dennis Hwee Weng Hey</i>
0950 – 1005	TEA BREAK [VENUE: New Building, 1 st Floor]
1600 – 1615	TEA BREAK [VENUE: New Building, 1 st Floor]
1700	CLOSING AND CERTIFICATE PRESENTATION
0830 – 1700	LIVE SURGERY <i>(Kindly refer to the OT list attachment which will be distributed)</i> Operation Theatre 1 Operation Theatre 2

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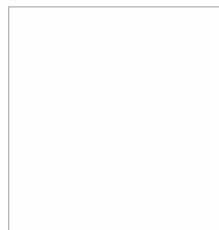
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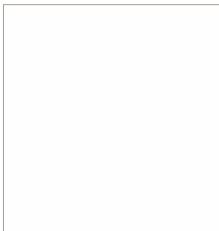
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ABSTRACTS



ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 2 - 0915

BASIC SURGICAL TECHNIQUES FOR PEDICULAR SCREWS IN UPPER DORSAL SCOLIOSIS

Muhammad Tariq Sohail

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Pedicle in the cervical spine and dorsal spine are different anatomically and proximal thoracic vertebrae they are more similar to the cervical spine. The bodies are smaller and the pedicle direction is more convergent as compare to lower thoracic or lumbar spine. The pedicle is also narrow and elliptical. The screws can be inserted directly through free hand technique and are image guided. The important landmarks are the facet joint and the upper border of the transfer process. If the pedicle they are rounded and if of good diameter they can easily take screws of 5 mm diameter and if pedicle are more elliptical or sclerotic then it is osteoporotic than its difficult and in these situations screw can be placed between pedicle and rib head without jeopardizing safety and bio-mechanical expectations.

ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 2 - 0925

FUSION LEVELS IN SURGICAL TREATMENT OF ADOLESCENT IDIOPATHIC SCOLIOSIS

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Selection of fusion levels in Adolescent Idiopathic Scoliosis (AIS) require a careful assessment of patient's medical status including pulmonary function, activity level and appearance. Classifications of AIS provide algorithms towards selection of fusion levels. During the last decade, the Lenke classification which is a three-tiered analysis of curve types (1-6), lumbar modifier (A-C) and sagittal modifier (-, N, +) has emerged to be the benchmark system in the determining the fusion levels in AIS. This classification provide guidelines for selective fusion, motion segment preservation, post operative shoulder balance, prevention of proximal and distal junctional kyphosis etc. However existing algorithms can't cover up few uncommon exceptions and further research may be helpful in this regard.

The main principle of the Lenke classification is that the major curves and the structural minor curves should be fused and non-structural minor curves allowed to correct spontaneously. The following are the most common fusion levels in Lenke classification with pedicle screw system.

Type 1 (Main thoracic curve): From neutral vertebra above to the stable vertebra below or stable minus one or two levels. In a (R) sided curve with right shoulder elevation, the upper instrumented vertebra (UIV) is T4 or T5; but T3 or T4 if the shoulders are level and T2 if the (L) shoulder is high pre operatively. Anterior fusion is an option in a skeletally immature patient with hypokyphosis or a lumbar modifier C, where fusion level is usually from upper (UEV) to lower end vertebra (LEV).

Type 2 (double thoracic curves): The UIV should be T2 (high left shoulder), T2 or T3 (with level shoulders) and T3 (high right shoulder) pre operatively. Generally, the Lower Instrumented vertebra (LIV) is the stable vertebra.

Type 3 (double major curves): The UIV may be T3-5, depending on the size and stiffness of the nonstructural proximal thoracic (PT) curve and any shoulder asymmetry. The LIV is usually L3 or L4 with the level determined by the stable vertebra.

Type 4 (triple major curves): Here the UIV is T2 or T3 (according to shoulder balance) and the LIV is L3 or L4.

Type 5 (thoracolumbar/lumbar curves): If fused anteriorly, it is from the UEV to the LEV. Treatment with posterior fixation with pedicle screws can be achieved over the same levels or to one additional caudal level.

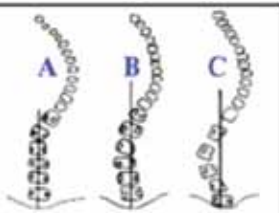
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ABSTRACTS

Type 6 (thoracolumbar/lumbar–main thoracic curves): UIV varies from T3–5 with the location of main thoracic (MT) curve and shoulder height. The LIV is L3 or L4 which is usually the most proximal lumbar vertebra touched by the CSVL.

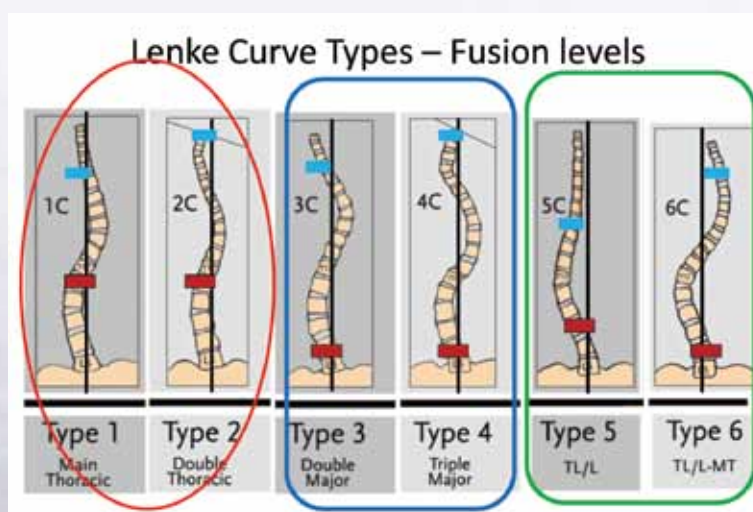
Selection of fusion levels in AIS has been traditionally a subject of debate among surgeons. The suggested landmarks like the end vertebra, stable vertebra and neutral vertebra and the clinical appearance of the patient, the type of the curve and its flexibility, the surgical technique and the instrumentation used etc play major roles in selecting the fusion levels in AIS.

CURVE TYPE				
Type	Proximal Thoracic	Main Thoracic	Thoracolumbar/Lumbar	Description
1	Non-Structural	Structural (Major)*	Non-Structural	Main Thoracic (MT)
2	Structural	Structural (Major)*	Non-Structural	Double Thoracic (DT)
3	Non-Structural	Structural (Major)*	Structural	Double Major (DM)
4	Structural	Structural (Major)*	Structural	Triple Major (TM) [†]
5	Non-Structural	Non-Structural	Structural (Major)*	Thoracolumbar/Lumbar (TL/L)
6	Non-Structural	Structural	Structural (Major)*	Thoracolumbar/Lumbar-Main Thoracic (TL/L-MT)

Lumbar Spine Modifier	Center Sacral Vertical Line to Lumbar Apex		Thoracic Sagittal Profile T5-T12	
			Modifier	Angle
A	CSVL between pedicles		- (Hypo)	<10°
B	CSVL touches apical body(ies)		N (Normal)	10° - 40°
C	CSVL completely medial		+ (Hyper)	>40°

[Rose SP, Lenke GL: Classification of Operative Adolescent Idiopathic Scoliosis: Treatment Guidelines. Orthop Clin N Am 38 (2007) 521-529]

SUMMARY



ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 2 - 0935

UPPER AND LOWER CERVICAL SPINE TRAUMA – MANAGEMENT STRATEGIES

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Cervical spine trauma with neurologic disturbance and/or definite segmental instability are usually indicated to surgical management. Surgeons must consider degree and types of neurologic deficits and spinal instability patterns for selection of surgical procedures.

1. Upper cervical trauma

Craniocervical junction and atlantoaxial segment without disc body unit has different biomechanical characteristic from lower cervical spine. The most important stabilizers in the craniocervical junction is the occipitoatlantal joints. The transverse ligament of the atlas, odontoid process and atlantoaxial joints have important role as the stabilizer of the atlantoaxial joints. Surgeons have to consider which stabilizers were compromised by injury for choice of surgical procedure.

2. Lower cervical trauma

Biomechanical circumstance from C2/3 to C7/T1 is almost similar with same stabilizers of the disc-body unit, anterior and posterior longitudinal ligaments and facet joints, etc. Lower cervical spine trauma can be roughly classified to anterior, posterior and combined anterior and posterior injuries. Surgeons can select surgical procedures considering instability patterns of injury, familiar approach and instrumentation for the surgeons. At present, surgeons can use many cervical fixation procedures including anterior plate, spinous process wiring, lateral mass screw or pedicle screw fixation.

ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 2 - 0945

SURGICAL MANAGEMENT OF CERVICAL OPLL : ANTERIOR/POSTERIOR

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The pathology of ossification of the posterior longitudinal ligament (OPLL) is progressive stenosis of the spinal canal, which may cause compression myelopathy, radiculopathy, or both.

Literature suggests that OPLL patients with mild myelopathy are good candidates for conservative treatment but they must be followed-up frequently.

Risk factors for a poor prognosis after conservative treatment or following the natural course of the disease to progress are :-

- 1) The severity of the myelopathy
- 2) A long duration of myelopathy
- 3) A triangular cross-sectional of the spinal cord at the most severely affected segment
- 4) Segmental – or mixed – type OPLL
- 5) More than 60% stenosis

The role of surgery is to decompress and stabilize the spine.

The most important factor in choosing an anterior or posterior approach is cervical lordosis.

Anterior cervical decompression and reconstruction is a safe and appropriate treatment for cervical spondylitic myelopathy in the setting of OPLL. For patients with maintained cervical lordosis, posterior cervical decompression and stabilization is advocated. The use of laminectomy or laminoplasty is indicated in patients with preserved cervical lordosis and less than 60% of the spinal canal occupied by calcified ligament in a 'hill-shaped' contour.

ABSTRACTS

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SURGICAL MANAGEMENT OF THORACIC OPLL AND OLF

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The prevalence of the posterior longitudinal ligament (OPLL) in thoracic spine is less than that of cervical myelopathy caused by cervical OPLL. However, once compressive myelopathy appeared at the thoracic spine, which mechanically more stable than other spinal levels by nature, conservative treatment such as rest or immobilization by brace is considered to be ineffective. Accordingly, decompressive surgery should be recommended for patients with severe or moderate thoracic myelopathy caused by OPLL. For thoracic myelopathy caused by OPLL, it had been pointed out that the results of posterior decompression were uncertain and poor in many patients. Main reason for the poor results of posterior decompression is that thoracic spine is naturally kyphotic, and the spinal cord is compressed anteriorly. At present time, choices of treatment for thoracic OPLL consist of posterior extensive laminectomy, anterior decompression through the anterior or posterior approach, and circumferential anterior and posterior decompression. In general, for patients with spinal cord compression caused by OPLL at the kyphotic portion of the thoracic spine, anterior decompression is recommended. However, for some patients with mild kyphosis at the thoracic spine, a simple and less invasive posterior extensive laminectomy could be indicated for decompression of OPLL. In addition, combined procedure of laminectomy and correction of kyphosis provides some improvement for thoracic myelopathy by OPLL.

Meanwhile ossification of the ligamentum flavum (OLF): directly compresses the spinal cord posteriorly, can be managed by posterior decompression of laminectomy.

ABSTRACTS

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KYPHOPLASTY AND VERTEBROPLASTY – INDICATION AND TIPS

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Kypho- and vertebroplasty of the spine involve the injection of cement into the vertebral body with or without prior ballooning. Their main purposes are to provide stability to the vertebral body during axial loading, and to act as a grout during realignment procedures. They are commonly employed in spinal fractures, degenerative spinal conditions, and metastatic spinal diseases. Although there are several ways both procedures may be performed, the main method involves a percutaneous transpedicular approach. The key steps to performing this approach are 1) accurate identification of the correct vertebra, 2) safe access to the vertebra, 3) monitored cement delivery with or without ballooning, and 4) proper trocar withdrawal.

ABSTRACTS

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CLINICAL SIGNS OF CERVICAL MYELOPATHY AND SURGICAL PRINCIPLES

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Cervical myelopathy is the result of spinal cord compression in the cervical spine and is a common disorder in persons older than 55 years of age. Cervical compression in myelopathy is predominantly due to pressure on the anterior spinal cord with ischemia and to deformation of the cord by anterior herniated discs, spondylitic spurs, an ossified posterior longitudinal ligament or spinal stenosis. Early symptoms of this condition are 'numb, clumsy, painful hands' and disturbance of fine motor skill. The diagnosis of cervical myelopathy is primarily based on the clinical signs found on physical examination and is supported by imaging findings of cervical spondylosis with cord compression. There are numerous surgical strategies for cervical myelopathy and controversies have arisen between researchers regarding the use of an anterior or posterior approach, prophylactic surgery and conservative (non-surgical) versus surgical treatment. Cervical laminectomy and laminoplasty have been used to decompress the neural elements posteriorly when there is extensive involvement of the cervical spine. Records of 18 men and 7 women cervical myelopathy patients aged 35 to 78 (mean 62.6) years who underwent open-door cervical laminoplasty using titanium reconstruction miniplate and screws were reviewed retrospectively. Four patients had 5 levels (C3-C7), 21 patients had 4 levels (C3-C6) decompression and 3 patients (12%) performed foraminotomy. A total of 104 laminae were opened, all of them were fixed with a titanium reconstruction miniplates. In 21 patients, a 20-hole titanium miniplate bent to the contour of a lamina was used and fixed into 4 laminae and 4 patients fixed in 5 laminae levels. In most patients, screw fixation was unicortical and no spacer or bone graft was used. Demographic and surgical data were collected and clinical outcomes were assessed with neck pain score, neck disability index and Nurick's grading. Outcome analysis was done using Odom's criteria. The mean follow-up duration was 1.8 (range, 1-5) years. Diagnoses were MCSM (n=20), OPLL (n=5). Mean estimated blood loss (EBL) was 120 ml (range: 50-200), mean surgery time was 153 min (range: 75-240). Following Nurick's grading, 23 patients (92%) improved, 2 (08%) had the same Nurick grade. No intraoperative complications were noted and average hospital stay was 6.12 days (range: 5 to 9). Significance improvements in overall NDI scores occurred at 1 year follow up ($p < 0.002$). Radiographic evaluation showed an increase in the mean sagittal diameter from 13.3 mm at pretreatment to 19.4 mm post surgery. Two patients developed transient C5 palsy. Open-door Laminoplasty technique is safe, easy and achieves a good canal expansion and neurological recovery and can be used as an alternative treatment for cases of MCSM and OPLL patients without instability.

ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 3 - 0900

DEGENERATIVE LUMBAR STENOSIS – WHEN IS DECOMPRESSION ALONE ADEQUATE?

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With increasing age the number of degenerative lumbar spine disorders and stenosis are increasing is presenting usually with neuro-claudication. As a part of cascade of degenerative disorder the lumbar spine may be unstable with and osteophytes formation producing and entrapment neuropathic disorder.

Few of the patients have huge osteophytes and hypertrophy of ligament of flavum. In clinical evaluation it is important to rule out any instability. In treatment protocol one should check for any instability and spine with stable/stenotic problem will need decompression without any instrumentation.

The extension limitation implants like interlaminar spacers or interspinous spacers restrict extension which helps in opening up the intervertebral foramen and thereby indirectly release nerve compression during ambulatory activity.

ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 3 - 0910

SURGICAL MANAGEMENT OF ADULT DEGENERATIVE SCOLIOSIS

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With increase in life expectancy of people even in developing countries, prevalence of adult degenerative scoliosis (ADS) is increasing globally. ADS is different than the adult idiopathic scoliosis (AdIS), another type of adult scoliosis (AS), in etiology, age of the patient, clinical symptoms and curve magnitude and its pattern; thus needs differentiation for proper treatment. Back pain, radicular pain with claudication and deformity are common symptoms of ADS.

Adequate size plain X-rays and MR Imaging is necessary to plan the treatment. The SRS-Schwab classification considers the spine-pelvic harmony and its relation with HRQOL (health related quality of life). There is always a room for conservative treatment in AS, however surgery has better outcome. Spinal deformity with back pain is the main indication for surgery in AdIS, while radicular leg pain and neurogenic claudication are indication for surgery in ADS. Other co morbid medical diseases conditions, like cardio-pulmonary disease, osteoporosis and nutritional status of the patient have to be considered while planning operation. The aim of the surgery is to relieve symptoms and to minimize the post-operative complication.

There is a spectrum of surgical options for adult degenerative scoliosis from decompression alone to decompression coupled with long fusion and correction of deformity. Type and extent of the surgery is tailored according to the symptoms, curve magnitude, sagittal and coronal imbalance and underlying medical condition of the patient. Since the age of ADS cases is elderly, all surgical intervention carry additional risks of operation related complications. Proper preoperative planning and counseling on “risk benefit” to patient and patient party is of utmost importance.

ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 3 - 0920

PATHOMECHANISM OF DEGENERATIVE SONDYLOLISTHESIS AND TREATMENT STRATEGY

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Degenerative spondylolisthesis is defined as an acquired anterior displacement of one vertebra over the adjacent vertebra, associated with degenerative changes, without as associated disruption or defect in the vertebral ring. Degenerative spondylolisthesis (DS) of lumbar spine is frequently encountered in clinical practice. Among the patients with low back pain. 8.7% are DS; and prevalence sharply increased with age. Lumbar DS is a major cause of spinal canal stenosis and often related to low back and leg pain. The main cause of Lumbar DS is arthrosis of facet joints and disc degeneration. These changes may occur at single or multiple motion segments. Kirkardy and Willis et al (1978) described the phases of degenerative process as dysfunction, instability and stabilization. Progressive degeneration and /or disc herniation leads to collapse of disc space. Facet joints may over-ride, thus stretching the capsule and ligamentous structures. Over time, instability results in hypertrophic changes at the annular ligaments, formation of traction osteophytes and hypertrophy of facets, which generates a stenosis of the spinal canal and neural foramina. Persistent uni segmental or multi segmental instability pattern produce rotational and translational subluxation, resulting in degenerative spondylolisthesis. The prognosis of patients with DS is favourable, However, those with intermittent claudicating or vesicorectal disorder, will most probably experience neurological deterioration if they are not operated upon. Non operative treatment should be the initial course of action in most cases of DS with or without neurological symptoms. Controversy exists concerning the indication for surgery and choice of surgical procedures with DS.

ABSTRACTS

APSS DHAKA OPERATIVE COURSE DAY 3 - 0930

MANAGEMENT OF POST-TB KYPHOSIS

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INTRODUCTION Spinal Tuberculosis is mostly secondary. Post TB Kyphosis is a common form of deformity. Management in such a case is always controversial & there are various surgical approaches for Spinal Tuberculosis (Anterior, Antero-lateral, combined & posterior). However, Posterior approach achieves 360o decompression of spinal cord as well as satisfactory Kyphosis correction in wet cases.

MATERIAL AND METHODS Posterior decompression, posterior interbody and posterolateral fusion by bone graft with stabilization by transpedicular screws and rods can achieve good Kyphotic correction in wet TB cases. On the contrary, kyphotic deformity in healed cases seems to be challenging for the surgeons. Here, neuromonitor is a must & osteotomy is essential for deformity correction. Appropriate anti TB drugs are advised to all patients for 12-18 months.

RESULTS In case of wet spinal TB cases, posterior approach provides with a satisfactory outcome. Adequate decompression & correction of deformity are seen in most of the patients. But in healed ones, spinal cord is at risk while correcting Kyphosis & there is every chance of injury during surgery. Pre & post operative evaluation is done by the American Spinal Injury Association (ASIA) neurological impairment scale. Satisfactory improvement of neurology is seen in both wet & healed cases. Besides, Kyphosis correction is adequate through posterior approach in only wet cases.

CONCLUSION For patients with spinal tuberculosis anterior debridement, auto graft bone fusion, anterior or posterior fixation appears to be effective in arresting disease, correcting kyphotic deformity and maintaining correction until solid spinal fusion.

ABSTRACTS

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SURGICAL STRATEGIES FOR MANAGEMENT OF METASTATIC SPINAL DISEASE

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Metastasis is the most common tumor condition involving the spine. Patients with this condition may have an unknown primary pathology, neurological compromise, spinal instability and spinal deformity. Therefore, surgery is often targeted at clinching the diagnosis (biopsy), neural decompression, spinal stabilization with or without realignment. Depending on the nature of the condition and the patient's physiological state of health, surgical strategies may vary from minimally-invasive palliative procedures to aggressive, open, en-bloc tumor resection with spinal reconstruction, so as to achieve the best clinical outcome. A good hemostasis protocol, close neuromonitoring and familiarity with the available surgical armamentarium are extremely helpful.

