

EVOLUTION OF SPINE DEFORMITY SURGERY IN THE WORLD AND ASIA

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Hippocrates(460-377 B.C.) devised ladder and board for correction of spine deformity and this principles are applied until today. Hibbs(1911) and Albee(1911) initiated spine fusion, Cobb(1948) corrected deformity with turnbuckle cast, and Risser(1958) applied localizer cast for early mobilization. Harrington(1958) opened a modern era of spinal deformity correction introducing posterior instrumentation with hook and rod. Luque(1977) used segmental sublaminar wiring and Cotrel and Debousset (1982) developed CD system using multiple hooks. Suk(1988) applied pedicle screws for the correction of thoracic AIS. Thomassen(1985) and Bradford (1990) reported vertebral resection for severe deformity with combined anterior and posterior procedure and Suk(1997) reported one stage posterior procedure, PVCR. Non-fusion strategies were reported for young severe deformity; growing rod(Akbarnia 2005), Shilla (McCarthy 2005), VEPTR(Emans 2005, Campbell 2007) and vertebra body stapling(Betz 2003). Dwyer(1964) performed anterior instrumentation using a cable, Zielke(1975) modified it with a threaded rod, and Kaneda(1991) and Harms(1991) used rigid rods. McAfee and Newton(1993) reported endoscopic anterior instrumentation. Spine deformity surgery in Asia Pacific developed rapidly since 1960s. Western Pacific Orthopedic Association (WPOA, the old name of APOA) was established in 1962 and Spinal Section of Asia Pacific Orthopedic Association (APOA) was founded in 1980 with the aims on providing continuing medical education and supporting research in spinal conditions, holding scientific meetings for 17 times, and also had the Operative Spinal Surgery Course 12 times since 1983. Pacific Asian Minimally Invasive Spinal Surgery (PASMIS) was formed in 2001 and has meeting every year. A large number of spine surgeons in Asia did a great contribution for the innovative development of spine deformity surgery; Ito(1934) and Hodgson(1956) did spinal anterior debridement, Dwyer(1964) anterior correction for scoliosis, Yau and Leong osteotomy for severe kyphosis, Tomita(1977) posterior resection for vertebral tumor, Suk(1988, 1997) pedicle screws for thoracic AIS and PVCR, Kaneda(1988) anterior rigid rod instrumentation, etc.