Patients had standardized skin preparation before surgery. They had antiseptic povidone-iodine shower the day before and the day of surgery. At the theater, an antiseptic povidone-iodine scrub (Betadine scrub, Meda Pharma, Solna, Sweden) was made and two antiseptic alcoholic-iodine paint (Iso-Betadine, Meda Pharma, Solna, Sweden) were applicated. After the drapes were set, the surgeon put a transparent iodine impregnated incise drape on the surgical field (Ioban incise drape, 3M, St-Paul, Minnesota).

Patients with idiopathic scoliosis underwent posterior spinal fusion and instrumentation using hybrid constructs, that included sublaminar bands (Universal Clamps, Zimmer Spine, Bordeaux, France) in the thoracic spine and Java posterior fusion rods and distal (lumbar) pedicle screws (Zimmer Spine, Bordeaux, France). Fusion levels were selected following the same criteria during the entire study period, and 5.5 titanium alloy rods were used in all cases. The 2 rods were contoured to the desired sagittal profile and connected with 2 transverse connectors before placement. The rods were first introduced in the pedicle screws, and lumbar correction was performed. Posteromedial translation was the primary technique used for thoracic correction, while in situ contouring, compression and/or distraction were also performed as needed to improve leveling of the uninstrumented spine both proximal and distal to the fusion construct. Patients underwent anterior release under thoracoscopy, before posterior correction and fusion, in case of lordotic thoracic kyphosis. Thoracoplasty was performed under thoracoscopy or through the posterior approach according to patient's cosmetic concern. Spinal cord function was monitored by means of somatosensory/motor-evoked potentials. Patients with neuromuscular deformity were operated with the same technique, but the pelvic fixation was performed in some of them using intrasacral rods, as described in the modified Jackson's technique. Patients with congenital scoliosis (hemivertebra or unilateral unsegmented bar) were treated by circumferential convexe

epiphysiodesis, combining posterior instrumented arthrodesis (2 levels above and 2 levels below) and anterior epiphysiodesis, performed under thoracoscopy or lombotomy. Both approaches were performed in the same operative stage, in lateral position.