50 Years Ago in CORR

A New Method of Pelvic Fixation

William Johnson MD Clin Orthop. 1958;11:194–201

Few surgical treatment concepts are truly new. The concept of external fixation by pins and various metal devices dates at least to the late 1800s. Parkhill [3] in 1898 described a set of devices he had used for some years to treat fresh fractures of the long bones, nonunions, and malunions. A few years later, Lambotte independently described a conceptually similar approach [2]. These approaches did not become widespread, perhaps owing to the designs (that of Parkhill, for example, was applied quite close to the fracture with only two pins on either side; perhaps not the most advantageous mechanical design), or metals (stainless steel had not yet been discovered), or because surgeons tended to use those methods with which they were familiar. For whatever reasons, external fixators did not become widely used for long bone fractures in Europe and North America until the 1970s.

On the other hand, fixators for pelvic fractures were not widely used until the 1990s, although they, too, had been described earlier. Johnson, in an article published in CORR in 1958 [1], described a sophisticated pelvic fixator. He noted pelvic fractures had not been common until the speed of motor vehicles had increased: “Automobiles today resemble eggs which on impact spew their contents in all directions.” Johnson was dissatisfied with then current approaches for displaced

fractures: “Having treated several fractures of this character by conventional methods with unsatisfactory results, I concluded that a method of grasping the bony pelvis in some rigid,

positive manner was necessary to relocate these fragments in their anatomic position.” He, therefore, developed a rather complex but flexible system of pins, bars, clamps, and

Fig. 3 This figure illustrates the complexity of Johnson's system of fixation devices and its flexibility to be configured to many situations. (Reprinted with permission and © Lippincott Williams & Wilkins, from Johnson W. A New Method of Pelvic Fixation. *Clin Orthop*. 1958;11:194–201.)

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Fig. 9 The photograph illustrates the Johnson's external fixation system in use; one can rather imagine the difficulty in procuring clothing appropriate for the device. (Reprinted with permission and © Lippincott Williams & Wilkins, from Johnson W. A New Method of Pelvic Fixation. *Clin Orthop.* 1958;11:194–201.)

external fixator.) While many technical advances have been made in the hardware itself and the application of the hardware, Johnson understood the value of external fixators and realized such devices needed to be sufficiently flexible to address a variety of situations.

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turnbuckles (Figs. 3 and 9). He describes treating five patients, all of whom had serious injuries, four of whom were in shock on arrival at the hospital, and the fifth semiconscious

from a fall from a height. (Johnson did not specifically mention the role of external fixators in mortality, but Riemer et al. [4] reported a reduction in mortality when using an anterior

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