Always innovating, never imitating

In over 20 years of clinical use, TAYLOR SPATIAL FRAME has been used to treat more than 132,000 patients with deformity or traumatic injury in over 50 countries around the world.

*Johnnie O. Yellock II, Combat Veteran**

95% success rate in acute trauma[1]

91% of patients with non-union or malunion achieved union[1]

86% of patients did not require further surgery for complications[1]

Smith+Nephew

TAYLOR SPATIAL FRAME◊

External Fixator

Adults

TAYLOR SPATIAL FRAME◊ External Fixator

1996 Orthopaedic Surgeon J. Charles Taylor collaborated with Smith+Nephew to develop the TAYLOR SPATIAL FRAME (TSF◊) External Fixator.

Dr. Taylor took mathematical algorithms already employed by the aerospace and automotive industries, and married them to Professor Ilizarov's principles of Distraction Osteogenesis to produce the first-of-its-kind hexapod for limb reconstruction.

The TSF construct is two rings attached to bone and connected by six telescoping struts. A prescription for strut adjustment is generated by web-based software allowing correction of deformity in six axes simultaneously, and achieving reduction to within 1mm and 1°.

More than
200
clinical publications reference TAYLOR SPATIAL FRAME[1]

Every year we connect
500
surgeons around the world with master faculty at our industry-leading instructional courses

Smith+Nephew has led the education of orthopaedic surgeons in circular fixation since the first trip to Kurgan in
1988

We help you push the boundaries in limb restoration and allow your patients to rediscover the joy of **Life Unlimited**.

TAYLOR SPATIAL FRAME◊ External Fixator is the **most widely used hexapod in the world.**

95% success rate in acute trauma[1]

91% of patients achieved non-union or malunion consolidation[1]

86% of patients were managed without need for further surgery[1]

In **over 20 years of clinical use**, TSF has been used to treat more than 132,000 patients with deformity or traumatic injury in over 50 countries around the world.

95% success rate in acute trauma[1]

Challenge

Complex trauma such as open fractures and periarticular fractures are often not amenable to treatment with traditional internal fixation methods.[18,20-22]

TAYLOR SPATIAL FRAME◊ Solution

TAYLOR SPATIAL FRAME can be used to stabilise complex fractures without causing further injury to compromised tissue. Fine Wire fixation facilitates restoration of the joint surface. The stability of TSF◊ allows for near immediate weight-bearing.[21-23,30]

Upon completion of treatment, no hardware is left behind.

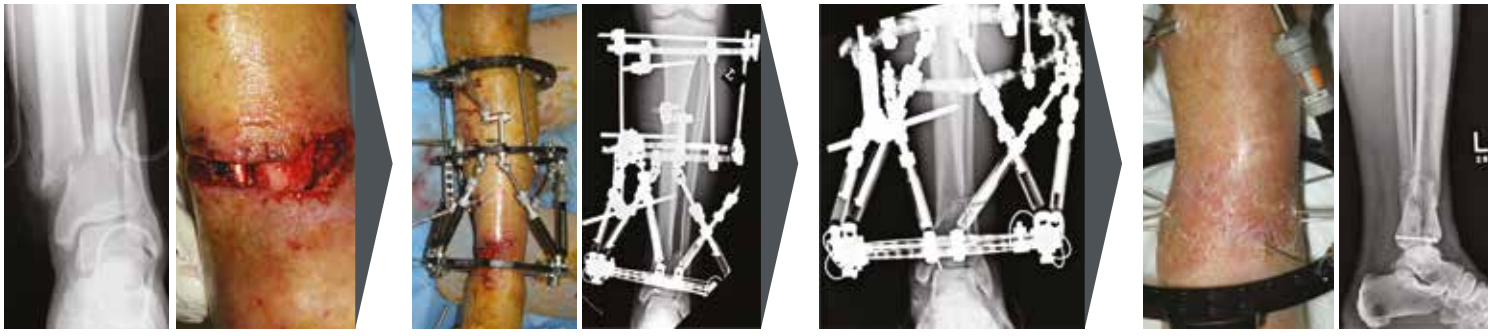
TSF works in harmony with the body's ability to re-build bone.

Studies that assessed the use of TSF for acute trauma (fractures) in adults[1]

Study	Number of patients	Patients with successfully realised treatment goals for consolidation (%)
Ahearn 2014	21 adult patients with fractures	21/21 (100%)
Menakaya 2014	37 patients (mean age 45 yr) with fractures	37/37 (100%)
O'Neill 2016	15 adult patients with fractures	13/15 (86.7%)
Rampurada 2008	26 adult patients with fractures	23/26 (88.5%)
Sala 2017	20 adult patients with fractures	17/20 (85%)

Smith+Nephew 2019. Systematic literature review with meta-analysis of TSF clinical effectiveness. Internal report. EO/TRAUMA/TSF/001/v6.

Open Pilon Fracture – TSF applied with bony deformity to allow soft tissue closure. Gradual TSF correction performed as soft tissue heals.



Images courtesy of J. Tracy Watson MD

91% of patients with non-union or malunion achieved union[1]

Challenge

Many factors may interfere with normal fracture repair, resulting in non-union with persistent motion between fracture fragments. Fractures of the tibia have the highest incidence of nonunion[17]

TAYLOR SPATIAL FRAME◊ Solution

Fractures that have failed to heal can be resected and stabilised with TAYLOR SPATIAL FRAME using the Ilizarov method.

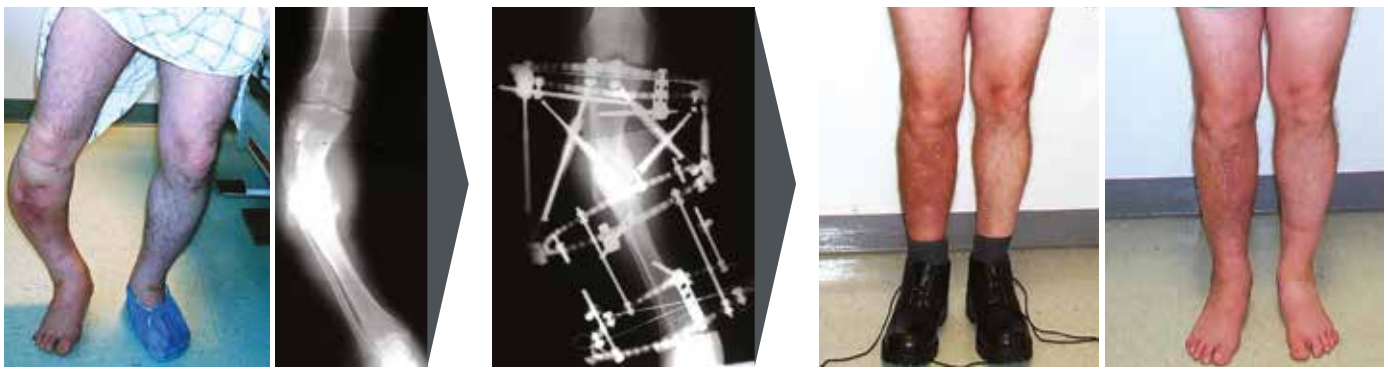
Normal limb length and alignment can be achieved[1]

Studies looking at outcomes for non-unions and malunions treated with TSF[1]

Study	Number of patients	Patients with successfully realised treatment goals for union (%)
Arvesen 2017	37 adult patients	35/37 (94.6%)
Khunda 2016	40 adult and adolescent patients (mean age 39.5 yr)	39/40 (97.5%)
Napora 2017	75 patients (mean age 45.7 yr	70/75 (93.3%)
Rozbruch 2008	38 adult and adolescent patients (mean age 43 yr)	27/38 (71.1%)

Smith+Nephew 2019. Systematic literature review with meta-analysis of TSF clinical effectiveness. Internal report. EO/TRAUMA/TSF/001/v6.

Thirty-one-year-old male with non-union following treatment with unilateral external fixator for crush injury.



Images courtesy of S. Robert Rozbruch MD

86% of patients did not require further surgery to manage complications[1]

Challenge

External Fixation is often associated with more complications than traditional internal fixation methods

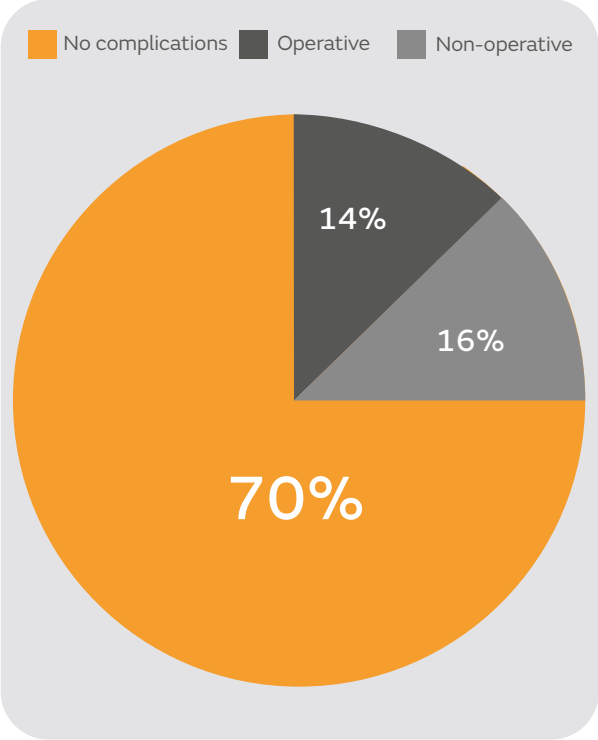
TAYLOR SPATIAL FRAME◊ Solution

- 70% of patients in four studies reported no complications
- Most complications are managed conservatively and remotely
- Complications such as pin site infection are usually managed conservatively without compromising the success of the treatment

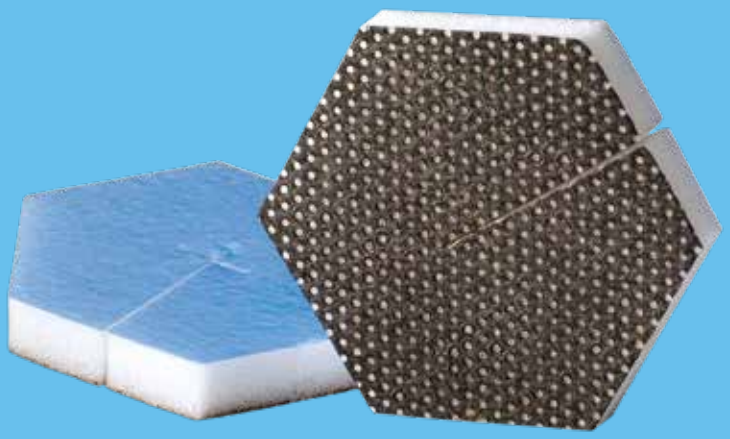
Proportion of patients who experienced no complications, or required a non-operative/operative intervention to resolve complications. Based on four Adult studies across all indications, that included patient-specific complication results, with more than 10 patients.[1]

Study Author	Number of patients with operative interventions	Number of patients with non-operative interventions	Number of patients without complications
Ahearn 2014	0	8	13
Arvesen 2017	4	1	32
Rampurada 2008	2	10	14
Rozbruch 2008	11	0	27

Smith+Nephew 2019. Systematic literature review with meta-analysis of TSF clinical effectiveness. Internal report. EO/TRAUMA/TSF/001/v6.



Systematic literature review with meta-analyses of TSF◊ clinical effectiveness EO/TRAUMA/TSF/001/v6



Nanocrystalline Silver has been shown to act as an effective antimicrobial barrier.[9-12]

ACTICOAT◊ EXFIX contains a nanocrystalline silver layer that has been shown to be effective against over 150 pathogens*[13-16]

ACTICOAT rapidly kills bacteria in as little as 30 minutes*[13-16]

*As demonstrated *in vitro*

In over 20 years of clinical use, TSF◊ has been used to treat more than 132,000 patients with deformity or traumatic injury in over 50 countries around the world.

Forty-five-year-old female with congenital fibrous dysplasia and left leg length discrepancy of 78mm

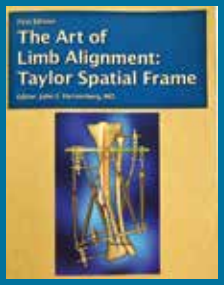
Treated with TAYLOR SPATIAL FRAME. Union achieved after 4.5 months.
Images courtesy of S. Robert Rozbruch MD

"...About a year ago, Taylor's computer-interface patent expired. As expected, competitors drooled with anticipation of tapping into the deformity correction market. A number of new circular fixators – each with an integrated computer program – appeared on fabric-covered tables at the world's orthopedic meetings. The products' champions lauded their imagined advantages over the TAYLOR SPATIAL FRAME™: a tweak here, a nip there, and yes, the strut colored markers are prettier too!

Rest assured, dear reader: many moons will pass before the proponents of the aforementioned gadgets will accumulate the wisdom contained herein..."

Stuart A. Green, MD Clincal Professor,
Orthopedic Surgery University
of Califormia, Irvine

Foreword to *"the Art of Limb Alignment: TAYLOR SPATIAL FRAME"* RIAO,
Sinai Hospital of Baltimore



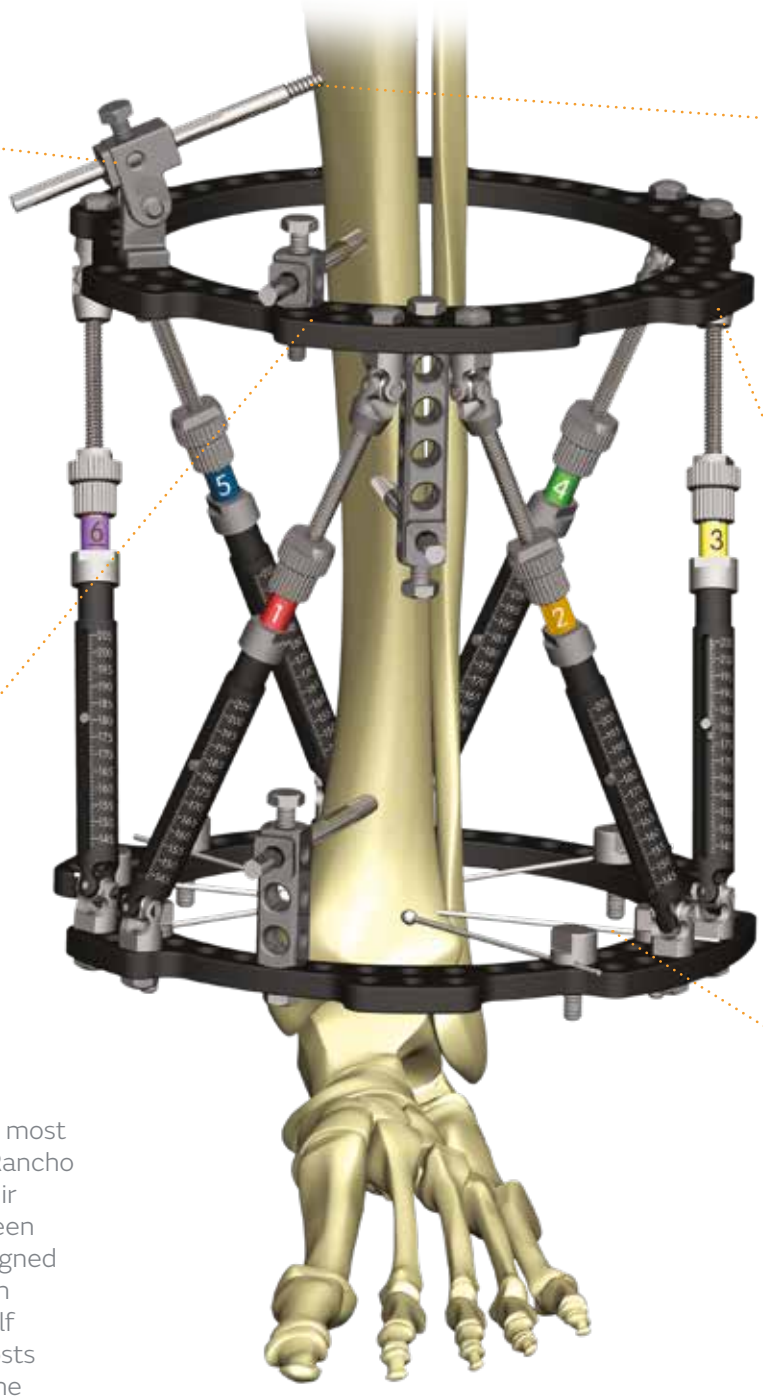
SPATIALFRAME.com

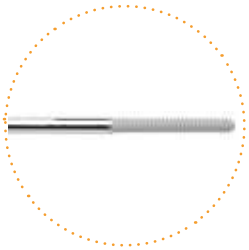
How TAYLOR SPATIAL FRAME◊ External Fixator Works

With streamlined instrumentation and innovative hardware, the TAYLOR SPATIAL FRAME External Fixator offers the maximum benefits of a circular fixator without the complexity of traditional Ilizarov methods.[2,3,5]

Angled Pin Connector

Angled Pin Connectors allow for the placement of a steerage pin, which provides stability in oblique fractures.[5,6]





Half Pin

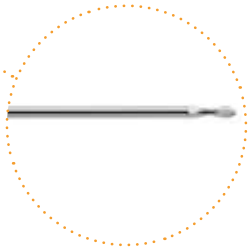
Hydroxyapatite Coated Half Pins have a tapered minor – constant major diameter for improved bi-cortical purchase.

Circular frame

The 7-hole Tab offers more options for fixation and flexibility for Strut attachment.

Rancho with Post

Smith+Nephew offers the most comprehensive range of Rancho cubes and posts since their design by Dr. Stuart A. Green in 1991. Ranchos are designed to be modular, for use with 4mm, 5mm, and 6mm Half Pins. Threaded Rancho Posts are designed to simplify the connection of Pins to Rings.



Wires

Wires are designed to be minimally invasive and to allow for stable fixation in small fragments.

Drill tip wires reduce heat generation and chance of thermal necrosis.[7*]

**tested at 700rpm in vitro*

Smith & Nephew, Inc.
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Memphis, Tennessee 38116
USA

www.smith-nephew.com

17127 V3 07/20

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