

## Barcelona Scoliosis Physical Therapy School (BSPTS)

**BSPTS is a school** created to offer education to Physiotherapists in treating patients with scoliosis and other spinal disorders, according to the general principles of the so called Physiotherapy Scoliosis Specific Exercises–PSSE (SOSORT Guidelines).

The Barcelona School was founded by Elena Salvá, a Catalan Physiotherapist, who introduced the German ‘Schroth Method’ in Barcelona during the 60’s.

Thus, BSPTS, was initially inspired and based on the original physiotherapy method created by Katharina Schroth in 1921.

The Schroth method became popular in Germany through K. Schroth’s daughter, Christa Lehnert-Schroth. Elena Salvá learned from both women before bringing the method to Barcelona.

At the late 80’s, Dr. Manuel Rigo and his wife, Dr. Gloria Quera Salvá, Elena’s daughter, started educating Spanish Physiotherapists in accordance with Lehnert-Schroth and Dr. H.R. Weiss methodology, Christa’s son. BSPTS was certifying physiotherapists, National and International, under the name of Schroth until the end of 2008.

Since then, three different branches emerged, the ISST from A.M. Hennes; Best Practice, From Dr. H-R- Weiss; and the BSPTS-Concept by Rigo. These three branches are based, on some way, in the original Schroth method, but nowadays, they can be considered relevantly different, conceptually as well as technically.

BSPTS has evolved paying attention to three spheres of knowledge:

- 1) Specific knowledge on Scoliosis and other spinal disorders
- 2) The BSPTS-Concept by Rigo. Based on four general principles: Three-dimensional stable postural correction; Expansion Technique; Muscle activation and Integration.
- 3) The BSPTS-Technique. Based on different touching formats (feeling format, passive-active format, inducing format, dissociating format, activation format, integration format)

BSPTS’s proposal is about helping the physiotherapist to find a balance between these three spheres of knowledge.

The general objectives of the certification are the following:

### General Objectives of the BSPTS-Concept by Rigo certification course:

- Give the physiotherapist specific information and knowledge about scoliosis (assessment, natural history, prognosis and treatment) to become a qualified member of a multidisciplinary team according to SOSORT Guidelines.
- Encourage thinking and critical/constructive reasoning when facing the different theories on the causes and development of scoliosis, the assessment systems and the treatment strategies, mainly non-surgical (Rehabilitation and Bracing).

Classical Educational Program of the BSPTS has been based on two Certification courses, C1 (10 days) and C2 (6 days). After two years of discussion, BSPTS is proposing now a new Educational Plan or Program, based on a unique course of Certification, extended in time and including four Levels as shown below.

**Certification BSPTS-Concept by Rigo Course for physiotherapists specialized in the management of Scoliosis and other spinal deformities.**

<b>Basic level</b>	Basic knowledge on scoliosis and other alterations of the spine
<b>Level 1</b>	BSPTS concept by Rigo. Specific treatment principles, correction strategies and basic positions
<b>Level 2</b>	BSPTS concept by Rigo. Advanced exercises and supervision of treatment
<b>Level 3</b>	BSPTS concept by Rigo. Adults, post-surgery, team work and orthopedic treatment with corset Rigo-Cheneau

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**Basic Level: Basic knowledge on scoliosis and other alterations of the spine.**

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Addressed to all health professionals interested in acquiring specific basic knowledge on scoliosis and other spinal disorders.

The Basic Level course will be available on-line and face to face.

On-line course is announced in the new BSPTS.net website.

Face to face Basic Level course is a three-day course (8 H per day – Three days) combining lecture on theoretical and practical knowledge.

In order to organize the lectures for this level what is needed is: a room with tables, a projector and a board. Attendants should have a laptop, minimum one per 2 students, which needs to have a program to measure X-rays installed. Program that will be handed out with the instructions for its use when the registration for the course is done.

**Specific objectives of the Basic Level:**

Train the students to:

- Be an active member of a multidisciplinary team, for the treatment of the deformities of the spine.
- Understand the etiopathogenesis and pathomechanism of the morphological alterations of the spine in the sagittal plane, as well as the idiopathic scoliosis.
- carry out a clinical and functional assessment of the patient with scoliosis and elaborate a complete clinical history.
- Make a correct clinical and functional diagnosis of the morphological alterations of the sagittal plane and the scoliosis.

- Use and interpret the questionnaires about the life quality of the patient with scoliosis.
- Assess and interpret the additional radiological tests of the patient with scoliosis using digital tools for its assessment, diagnosis, comprehension and prognosis.
- Assess, analyze and understand the orthopedic treatment to be used in the deformities of the spine.
- Understand the importance of the use of scientific evidence in the non-surgical treatment of the scoliosis.
- Apply the SOSORT Guide for the Clinical Practice, published in 2018.

The educational units of the Basic Level are the following:

	<b>Contents</b>
<b>EU1: Spine</b>	Description and analysis of the normal spine and the trunk in 3D: anatomy, biomechanics, geometry and stabilization mechanisms.
<b>EU2: Sagittal Alterations</b>	Morphological alterations of the spine and the trunk in the sagittal plane. Juvenile Hyperkyphosis (Scheuermann) and other deviations.
<b>EU3: Scoliosis</b>	Definition, characteristics and general knowledge and nature in 3D. Etiopathogenesis. Vicious circle.
<b>EU4: EOS, AIS, AdS</b>	Types of scoliosis: Onset scoliosis, Idiopathic scoliosis in teenagers, Scoliosis in adults.
<b>EU5: Natural History of Idiopathic Scoliosis</b>	Natural history, evolution, prognosis, skeletal maturity.
<b>EU6: Clinical assessment of the patient</b>	Digital postural assessment. Functional assessment. Scoliometer. Spirometry. Questionnaires on the quality of life.
<b>EU7: Radiological Assessment of the patient</b>	Digital Software to measure xRay, Cobb angle, rotation angle, vertical sacral line and pelvic parameters.
<b>EU8: Non-surgical treatment</b>	Non-Operative treatment of scoliosis. Physiotherapy Scoliosis Specific Exercises and Bracing. Schools and evidence
<b>EU9: Introduction of the orthetic treatment</b>	Orthesis of the trunk. Scanning systems, parameters and classification. Concept of the Cheneau Rigo Corset.
<b>EU10: Introduction to the surgical treatment</b>	Surgical parameters, types of surgery and current and groundbreaking approaches.
<b>EU11: Introduction to the BSPTS Concept</b>	General principles and clinical types. Classification of block diagrams.
<b>Assessment of Knowledge</b>	

Once the Basic level is achieved the student can go forward to the next level.

## **BSPTS Course Level 1. General Principles of the BSPTS-Concept by Rigo; Specific principles of Correction; Pre-defined Strategies of Correction according to Rigo Classification and Basic Unloading Starting Positions and Integration in Loading Positions.**

This level lasts 6 days, 8 hours per day, a total of 48 teaching hours, where theoretical and practical explanations are combined. This level is mainly practical, with approximately 70% of practical work and 30% theoretical.

In order to organize the lectures for this level what is needed is: a room for the theoretical lectures, a projector and a board. Also a room like a gym with wall bars to do exercises and rehabilitation material like 2 meter long poles, sacks, rubber or wooden bricks, rollers, elastic bands and mirrors.

### **Specific objectives at Level 1**

Train the student to:

- Describe the general principles of the BSPTS Concept by Rigo.
- Establish the specific principles to treat the scoliosis.
- Define the correction strategies needed for each specific case and at each of its treatment positions.
- Develop a treatment plan appropriate for the clinical and radiological aspects specific to the patient.
- Select the basic starting positions ( supine, prone, decubitus lateral, sitting and standing) depending on each curve pattern.
- Carry out the treatment of the patients based on the treatment and correction principles 3D of BSPTS during the treatment positions and put it in tension appropriately for each curve pattern.

The educational units of Level 1 are the following:

	<b>Contents</b>
<b>EU1: Revision of Basic Level</b>	Revise the basic concepts related to the clinical and radiological assessment and classification of the patient with scoliosis based on the BSPTS Concept by Rigo
<b>EU2: General Principles</b>	Description of the general principle of BSPTS
<b>EU3: Specific Principles</b>	Description of the specific principles of treatment based on the BSPTS Concept by Rigo.
<b>EU4: Starting positions</b>	Establish the principles of the basic starting positions for the treatment of scoliosis.
<b>EU5: Sagittal Alterations</b>	Treatment of the sagittal alterations using the basic positions appropriate for each patient.
<b>EU6: Scoliosis</b>	Treatment of scoliosis using the basic positions appropriate for each curve pattern.
<b>EU7: Integration. Daylit Activities</b>	Integration of the corrections in the daily activities.
<b>Assessment of Knowledge</b>	

**Practice:**

- Clinical case, treatment of deformity of the spine
- Workshop: exercises to correct deformities in the sagittal plane
- Workshop: basic correction exercises for patients with scoliosis.
- Workshop: exercises for the Activities of Daily Living ADL.

There will be a written exam at the end of Level 1. To access Level 2 it is necessary to pass this Level 1 exam as well as preparing and presenting to the BSPTS-Educational Committee a 'Case Report' during the time between Level 1 and Level 2.

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## **BSPTS Course Level 2. BSPTS-Concept by Rigo applied to Loading and advanced exercises. Treatment supervision.**

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This level lasts 6 days, 8 hours per day, a total of 48 teaching hours, where theoretical and practical explanations are combined. This level is mainly practical, with approximately 80% of practical work and 20% theoretical.

In order to organize the lectures for this level what is needed is: a room for the theoretical lectures, a projector and a board. Also a room like a gym with wall bars to do exercises and rehabilitation material like 2-meter-long poles, sacks, rubber or wooden bricks, rollers, elastic bands and mirrors.

In Level 2 there is supervision of the student's work treating patients with alterations in the spine and scoliosis. As a consequence, patients are needed to carry out the practical work.

### **Specific objectives Level 2**

Train the student to

- Describe the general principles of the BSPTS Concept by Rigo.
- Establish the specific principles to treat the scoliosis.
- Define the correction strategies needed for each specific case and at each of its treatment positions.
- Develop a treatment plan appropriate for the clinical and radiological aspects specific to the patient.
- Carry out the advanced exercises for the treatment of scoliosis.

The educational units of Level 2 are the following:

	<b>Contents</b>
<b>EU1: Revision of Level 1</b>	Revise the basic concepts related to the clinical and radiological assessment and classification of the patient with scoliosis based on the BSPTS Concept by Rigo.
<b>EU2: Advanced Exercises</b>	Description of the advanced exercises for the treatment of scoliosis based on the BSPTS Concept by Rigo.
<b>EU3: Practical supervision</b>	Supervision of each student while treating patients with scoliosis and

	alterations of the spine.
<b>Assessment Knowledge</b>	

**Practice:**

- Supervision of student treating patients.
- Workshop with advanced correction exercises for patients with deformities of the spine and scoliosis.

There will be a written and a practical exam at the end of Level 2. To access Level 3 it is necessary to pass these exams as well as preparing and presenting a 'Certification Work' to the BSPTS-Educational Committee, during the time between Level 2 and Level 3.

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**BSPTS Course Level 3. BSPTS-Concept by Rigo for adult complex patients and post-surgery complications. Strategies for management of patients forming little groups. The Rigo-Chêneau brace concept.**

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This level lasts 6 days, 8 hours per day, a total of 48 teaching hours, where theoretical and practical explanations are combined. This level is mainly practical, with approximately 50% of practical work and 50% theoretical.

In order to organize the lectures for this level what is needed is: a room for the theoretical lectures, a projector and a board. Also a room like a gym with wall bars to do exercises and rehabilitation material like 2-meter-long poles, sacks, rubber or wooden bricks, rollers, elastic bands and mirrors.

In Level 3 there is practical work with the students treating patients with alterations in the spine and scoliosis. As a consequence, patients are needed to carry out the practical work.

**SPECIFIC OBJECTIVES LEVEL 3**

Train the student to:

- Define scoliosis in adults: novo scoliosis and adolescence scoliosis with development in the adult.
- Describe the clinical and radiological aspects of the adult patient with scoliosis and the differences between the two clinical types.
- Know about the current range of surgical approaches for patients with scoliosis.
- Establish teamwork to treat patients with scoliosis.
- Differentiate the correction principle using the Rigo-Cheneau brace.

The educational units of Level 3 are the following:

	<b>Contents</b>
<b>EU1: Adult Scoliosis</b>	Define the scoliosis in adults and novo scoliosis
<b>EU2: Surgical Approach</b>	Current Surgical approaches to treat patients with scoliosis and post-

	surgery treatment.
<b>EU3: Treatment with group</b>	Establish the strategies needed to manage and treat in 'group sessions' patients with scoliosis.
<b>EU4: Orthopedic Treatment</b>	Correction principle used in orthopedics and the characteristics of the Rigo-Cheneau brace.
<b>Assessment of knowledge, certification and end of formation</b>	

**Practice:**

- Clinical case, treatment of the scoliosis in an adult.
- Workshop: exercises for the adult patient with scoliosis.
- 'Group sessions' involving patients with scoliosis
- Workshop to do orthopedic assessment. Interpretation of orthopedic correction.
- Practical demonstration of the correction principles of the Rigo-Cheneau brace.

At the end of Level 3 there will be a written and a practical exam. To get the final BSPTS-certification it is necessary to pass these exams.

Once the knowledge assessment is passed the student will receive the:

**BSPTS-CERTIFICATION TO BE PHYSIOTHERAPISTS EDUCATED IN THE TREATMENT OF SCOLIOSIS AND OTHER SPINAL DISORDERS USING THE BSPTS-CONCEPT BY RIGO.**