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Analysis of the Education System for Nurses Programming Spinal Cord Stimulators in Poland and the United Kingdom

Analiza systemu kształcenia pielęgniarek programujących stymulatory rdzeniowe w Polsce i Wielkiej Brytanii

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Abstract

Introduction. Spinal cord stimulation is a modern method for treating chronic pain. In many European countries, nurses play a key role in device operation, programming, and patient education. In Poland, this role is still developing.
Aim. The aim of this study was to compare the education system and professional preparation level of nurses involved in programming spinal cord stimulation devices in Poland and the United Kingdom.
Material and Methods. The study was conducted using a survey containing 11 questions about the scope of competencies, training, collaboration with medical teams, and professional roles. Nurses from 7 centers in England, 1 in Wales, and 1 in Poland completed the survey.
Results. In the United Kingdom, nurses involved in the care of patients with spinal cord stimulators can attend certified training programs, and their role is clearly defined within the healthcare system structure. However, it should be emphasized that this is not a standard practice throughout the country and does not apply to all nurses working in neuromodulation. In Poland, although a formal, systemic educational pathway for spinal cord stimulation programming does not yet exist, nurses also undergo certified specialized training. Despite the lack of official postgraduate education guidelines and regulations, the nurse's role in this field is gradually expanding.
Conclusions. The differences between Poland and the United Kingdom mainly concern the degree of systemic regulation of pain nurse education and the scale of their employment. In the United Kingdom, nurses' involvement in this area is clearly defined, structured, and widely established. It is necessary to develop and implement systemic solutions that will support the growth of this specialist role within the Polish healthcare system. Additionally, both countries lack a formal education pathway for new staff in neuromodulation therapy, which requires urgent regulation. **(JNNN 2026;15(1):11–16)**
Key Words: education, neuromodulation, nurse, Poland, spinal cord stimulation, United Kingdom

Streszczenie

Wstęp. Stymulacja rdzenia kręgowego to nowoczesna metoda leczenia przewlekłego bólu. W wielu krajach Europy pielęgniarki pełnią kluczową rolę w zakresie obsługi, programowania oraz edukacji pacjentów. W Polsce ta rola dopiero się kształtuje.
Cel. Celem pracy było porównanie systemu kształcenia i poziomu przygotowania zawodowego pielęgniarek zajmujących się programowaniem stymulatorów rdzenia kręgowego w Polsce i Wielkiej Brytanii.

Materiał i metody. Badanie przeprowadzono za pomocą ankiety zawierającej 11 pytań dotyczących zakresu kompetencji, szkolenia, współpracy z zespołem medycznym oraz roli zawodowej. Ankietę wypełniły pielęgniarki z 7 ośrodków w Anglii, 1 z Walii oraz 1 ośrodka z Polski.
Wyniki. W Wielkiej Brytanii pielęgniarki zaangażowane w opiekę nad pacjentami z stymulatorami rdzeniowymi mogą odbywać certyfikowane szkolenia, a ich rola jest jasno określona w strukturze systemu opieki zdrowotnej. Należy jednak podkreślić, że nie jest to standardowa praktyka w całym kraju i nie dotyczy wszystkich pielęgniarek zajmujących się neuromodulacją. W Polsce, chociaż nie istnieje jeszcze formalna, systemowa ścieżka edukacyjna dotycząca programowania stymulatorów rdzenia kręgowego, pielęgniarki również przechodzą certyfikowane specjalistyczne szkolenia. Pomimo braku oficjalnych wytycznych i regulacji w zakresie kształcenia podyplomowego, rola pielęgniarki w tym obszarze stopniowo się rozszerza.
Wnioski. Różnice pomiędzy Polską a Wielką Brytanią dotyczą przede wszystkim stopnia systemowego uregulowania kształcenia pielęgniarek bólowych oraz skali ich zatrudnienia. W Wielkiej Brytanii udział pielęgniarek w tym obszarze jest jasno określony, ustrukturyzowany i szeroko rozpowszechniony. Konieczne jest opracowanie i wdrożenie systemowych rozwiązań umożliwiających rozwój tej specjalistycznej roli w polskim systemie ochrony zdrowia. Ponadto w obu krajach brak jest formalnej ścieżki edukacji nowych pracowników w zakresie terapii neuromodulacyjnej, co wymaga niezwłocznego uregulowania. **(PNN 2026;15(1):11–16)**
Słowa kluczowe: edukacja, neuromodulacja, pielęgniarka, Polska, stymulacja rdzenia kręgowego, Wielka Brytania

Introduction

Spinal cord stimulation (SCS) is an increasingly common method for treating patients with chronic neuropathic pain that is resistant to pharmacological treatment. According to the guidelines of the National Institute for Health and Care Excellence (NICE), the qualification for stimulator implantation, as well as its ongoing monitoring and programming, should be carried out by specialized interdisciplinary teams [1].

This article presents the current standards of education, qualifications, and responsibilities of nurses involved in SCS programming in the United Kingdom and Poland, with a particular focus on competency requirements and career development pathways.

In the United Kingdom, chronic pain treatment is provided by multidisciplinary teams (MDTs), which include a pain medicine consultant, psychologist, physiotherapist, and neuromodulation nurse. This approach ensures comprehensive care and is outlined in the British Pain Society guidelines "Core Standards for Pain Management Services" (2021) [2].

Nurse education follows a clearly defined career pathway established by the Faculty of Pain Medicine and the Royal College of Nursing. It begins at the undergraduate level and can be continued through postgraduate studies and specialist training, such as the European Diploma in Pain Nursing (EDPN). The career pathway for nurses specializing in pain management is presented in Table 1.

Nurses work in various settings — from hospitals to community care — focusing on pain assessment, treatment planning, patient education, and collaboration with MDT teams. At advanced career stages, they take on leadership roles, conduct research, and contribute to health policy, following the Pain Knowledge and Skills Framework that supports development toward full clinical autonomy [2].

Table 1. Qualifications, level of education and experience for Pain Specialist Nurses

Qualification	Level of education	Level of experience
Registered nurse	— bachelor's degree, — introductory module in pain management	— broad general experience in nursing, — experience as pain link nurse, — evidence of an interest in pain management
Clinical nurse specialists	Working towards a or holding: — master's degree, — independent prescriber on the NMC register	Specialist knowledge in pain management
Senior clinical nurse specialists (advanced level nursing practice)	Working towards a or holding: — master's degree (180 level 7 points/Scotland level 11) or EDPNa, — independent prescriber on the NMC register	Specialist knowledge in pain management
Consultant nurses (advanced level nursing practice)	Working towards a or holding: — doctorate-level degree or equivalent qualification, — independent prescriber on the NMC register	Advanced clinical practice, leadership, facilitator of education and learning, evidence of research and development

Table 2. Description of roles for nurses programming SCS in the United Kingdom

Professional grade	Position	Scope of responsibilities
Band 6	Specialist Nurse /Deputy Ward Sister	Assisting with SCS implementation; participating in clinical consultations; programming the device in outpatient settings; patient education; working under supervision
Band 7	Advanced Nurse Practitioner /Clinical Nurse Specialist	Independent programming of SCS in the clinic and operating room; coordination of the treatment pathway; mentoring staff; participation in quality audits
Band 8 and above	Lead CNS/Nurse Consultant	Supervision of the entire neuromodulation program; conducting research, audits, service development; strategy for implementing new technologies

The United Kingdom provides one of the most developed examples of nurse involvement in spinal cord stimulation (SCS) therapy. Nurses play a key role in interdisciplinary pain management teams, including the care of patients with implanted SCS devices. Programming and therapy management may be performed by nurses employed at Bands 6, 7, and 8 within the *Agenda for Change* framework [3]. Recruitment is mainly conducted through the NHS Jobs portal, where candidates undergo qualification verification and interviews [4].

Band 6 and Band 7 nurses have similar clinical responsibilities, including SCS programming, patient education, audits, mentoring, research participation, and collaboration with physicians [5,6]. In addition, Band 7 nurses are often responsible for service planning, budgeting, staff training, and quality improvement activities. Band 8 nurses usually hold managerial roles, supervise departments, plan budgets, and work closely with Band 7 staff [3]. Experienced nurses may also qualify as Advanced Nurse Practitioners (ANPs), which enables them to independently assess patients, participate in research, and contribute to strategic management [6]. In smaller teams, the duties of Band 7 and Band 8 may overlap. Patient and family education, as well as continuity of care, remain essential elements of nursing practice in SCS therapy [7]. The role of nurses programming SCS in the United Kingdom is summarized in Table 2.

The aim of this study is to compare the professional training of nurses who programme SCS (spinal cord stimulation) devices in Poland and the United Kingdom, and to identify their educational needs.

Material and Methods

The study was conducted using a questionnaire-based survey between January and June 2025. The survey consisted of 11 closed-ended and open-ended questions. The questionnaire focused on the organization and forms of education available to nurses involved in SCS programming across different clinical centers.

The study included nurses representing nine clinical centers: seven from England, one from Wales, and one from Poland. In each center, one nurse completed the questionnaire and provided information regarding the local educational model and the role of nurses within the neuromodulation team.

All collected data were anonymized and analyzed using descriptive statistics.

Results

Most centers were public hospitals. The highest number of initial implants (>100 annually) was reported in two centers in England. In Poland and in three English centers, the number of procedures ranged from 31 to 60 annually, whereas in Wales it was below 10.

Device replacements were also most commonly performed in England. Two centers reported more than 50 replacement procedures annually, four reported between 16 and 30, and one reported fewer than 5. In Poland and Wales, the number of replacements ranged from 5 to 15 per year. The characteristics of the facilities participating in the spinal cord stimulation therapy study in England, Wales, and Poland are presented in Table 3.

Table 3. Characteristics of facilities participating in the study

Country	Number of facilities	Type of facility	Annual number of de novo SCS implants	Number of SCS stimulator replacements
England	7	7×public hospitals	2×>100, 1×61–100, 2×31–60, 2×10–30	2×>50, 4×16–30, 1×<5
Wales	1	1×public hospital	<10	5–15
Poland	1	1×public hospital	31–60	5–15

Table 4. Characteristics of teams and organization of care for patients with SCS in the studied countries

Country	Intraoperative stimulation	Number of physicians performing SCS implantations	Number of nurses working with SCS patients	Dedicated SCS team
England	6×yes, 1×sometimes	3×4–5 physicians, 4×2–3 physicians	4×4–6 nurses, 3×2–3 nurses	6×yes, 1×no
Wales	no	1×1 physician	2–3 nurses	yes
Poland	yes	2–3 physicians	2–3 nurses	yes

English centers also had the largest number of implanting physicians, usually 4 to 5 specialists, whereas in Poland and Wales there were generally between 1 and 3. Similarly, nursing teams were largest in England, usually consisting of 4 to 5 nurses, while centers in Poland and Wales typically employed 2 to 3 nurses. The characteristics of teams and the organization of care for patients with SCS in the studied countries are detailed in Table 4.

Most facilities in all analyzed countries had dedicated teams for SCS patient care, highlighting the importance of an interdisciplinary approach.

In the centers located in England, most respondents (6 out of 7) reported that no official educational pathway exists for nurses specializing in SCS therapy. Only one center confirmed the existence of such a pathway in the form of a Postgraduate Certificate (PG Cert). In both Wales and Poland, respondents clearly indicated that no formal educational pathway exists in this field.

With regard to the requirement for regular certification or renewal of competencies, responses from England revealed a variety of approaches. Some centers required annual renewal or competency confirmation, such as annual reviews or sign-off procedures for specific skills, whereas others followed a three-year revalidation cycle in accordance with Nursing and Midwifery Council (NMC) regulations. In Wales and Poland, such requirements were not formally implemented.

The formal training process for SCS nurses also varied across English centers. Some facilities reported having a structured training program, while others emphasized that training was informal and conducted internally or in cooperation with device manufacturers. Some respondents also highlighted a flexible educational approach in which nurses gradually acquire the necessary competencies while remaining within their defined scope of practice. In Wales and Poland, no formal training process for nurses in this field was identified.

In Poland, the implementation of this new nursing subspecialty in SCS therapy is carried out under the supervision of a mentor, who supports and accompanies the nurse throughout the process of gaining experience. This period lasts approximately 6 months or until the nurse reaches an adequate level of confidence.

Overall, only England demonstrated selected elements of an educational structure and a system for qualification renewal. In contrast, the other analyzed countries lacked formal frameworks and systemic solutions for the training and certification of nurses involved in SCS therapy.

Discussion

In Poland, nurse education in pain therapy takes place at several levels: basic knowledge is acquired during undergraduate studies, further developed at the master's level, and after graduation, qualification and specialist courses are available, organized by OIPiP, CKPPiP, and other institutions, covering pain therapy, pharmacotherapy, as well as legal and ethical aspects [8–10].

Specialist training in anesthesiology, intensive care, or palliative care also prepares nurses to work in the field of pain management [2]. In recent years, the Advanced Practice Nurse (APN) model has been developing, aiming to enhance nursing competencies by extending clinical authority — including prescribing rights and the ability to make independent therapeutic decisions. Despite these advances, Poland still lacks a unified and comprehensive educational program specifically dedicated to pain nurses, resulting in significant variation in competencies and training formats [11].

Currently, there is no formal, standardized training system in Poland for nurses specializing in SCS programming. Nurses typically obtain prior qualifications in pain therapy and have clinical experience with chronically treated pain patients. Nurses working in neuromodulation mainly gain knowledge through participation in scientific conferences on pain management and neuromodulation — both domestic and international — as well as through practical training sessions. These trainings enable them to acquire hands-on skills in device operation and collaboration within medical teams [12].

In Poland, nurses who program spinal cord stimulators perform similar tasks to their counterparts in the United Kingdom — including patient monitoring, device programming, patient education, and coordinating the care pathway for neuromodulation therapy. However, unlike foreign systems, Poland lacks formal legal frameworks and regulations that clearly define these competencies. Nurses typically operate within

interdisciplinary teams, following the internal protocols of medical facilities, their job descriptions, and usually under the supervision of specialist physicians.

The APN model (Advanced Practice Nursing) supports the development of advanced nursing practice by expanding clinical, decision-making, and diagnostic competencies. Within this model, it is possible to gradually integrate nurses into more autonomous care roles, including oversight of therapy and the operation of specialized medical devices — which could provide a solid foundation for formalizing the nurse's role in neuromodulation and pain management [9].

Currently, only one center in Poland officially employs neuromodulation nurses.

In the United Kingdom, nurses have the opportunity for postgraduate education in neuromodulation and pain management, including a one-year PGCert certificate. Classes are delivered remotely or in a hybrid format, allowing flexible learning. Completing the training, which lasts 1–2 years and includes 60 UK credits, prepares nurses for specialist roles within SCS teams [13,14].

Another option is the Postgraduate Diploma (Pg Diploma), typically lasting 2 to 4 years and worth 120 credits [15]. The next level is the Master's Degree, requiring the completion of 180 credits before proceeding to write the thesis; this usually takes 3 to 5 years. If all credits are not earned at the master's level, a partial master's qualification is awarded [16].

In the UK, completing any of these courses does not guarantee additional pay, and decisions about financial support depend on individual arrangements within clinics and job requirements.

According to guidelines from the Faculty of Pain Medicine, nurses working in neuromodulation should demonstrate detailed knowledge of spinal cord anatomy, patient qualification procedures, device programming software, and assessment of therapy effectiveness both after the trial implantation phase and after permanent implantation. Furthermore, they should be prepared to manage technical or clinical complications [17].

Analysis of the results clearly indicates the need to introduce a systemic solution for the education of nurses in programming SCS devices in Poland. The nurse's role in this area should be clearly defined, and competencies formalized. British experience shows that implementing such a model benefits patients and improves the effectiveness of therapeutic team work.

Conclusions

1. In Poland, there is no formal system for training nurses in neuromodulation.
2. In both the United Kingdom and Poland, nurses programming SCS devices are an integral part of the therapeutic team.
3. There is a need to develop certified training programs both in Poland and United Kingdom.

Implications for Nursing Practice

1. Develop Polish standards for the education of neuromodulation nurses.
2. Create certified courses in cooperation with medical companies and universities in Poland.
3. Involve nurses in other centers specializing in neuromodulation therapies in the process of monitoring, programming, and educating patients with SCS implants.
4. Establish a formal onboarding pathway for new staff in neuromodulation therapy.

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