

Guidelines to be followed by centres, services and units in order to be designated as Reference Centres, Services and Units of the National Health System, as agreed by the Interterritorial Board

38. BRACHIAL PLEXUS SURGERY

Injuries of nerve roots innervating the arm from C-5 to D-1 cause a medical condition characterized by brachial plexus palsy. In most cases, surgical examination of the plexus is performed to identify nerve injuries and to restore continuity by nerve grafting or neurotization. Direct muscle transfers or microvascularization are performed as palliative surgery, used to try to improve arm mobility when it is not possible to cure the injury.

A. Rationale for the proposal

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| ► Epidemiological data on brachial plexus palsy (incidence and prevalence). | <p>In Spain, there is an estimated incidence of 320 cases of traumatic brachial palsies and 80 of obstetric brachial palsies per year, according to data from the region of Asturias where an average of 10 cases of brachial plexus palsy, 8 traumatic, and 2 obstetrics, are assisted per year.</p> <p>According to the literature, obstetric palsy incidence is 0.3 per 1,000 births, although it has to be taken into account that 70% of the cases with obstetric brachial plexus injuries are incomplete and resolve spontaneously or leave mild effects; therefore, approximately 0.1 cases per 1,000 births require surgery (around 45 cases per year).</p> <p>Narakas is the most complete research of cases available, studying 237 cases.</p> |
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B. Guidelines to be followed by Centres, Services and Units in order to be designated as Reference Centres, Services and Units performing brachial plexus surgery:

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| ► Experience of the Reference Centres, Services and Units: | |
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| <p>- Activity:</p> <ul style="list-style-type: none"> • Number of brachial plexus surgeries that should be performed in a year to ensure an adequate care. • Number of procedures that should be performed in a year in procedures similar to those specific to the designation requested to ensure an adequate care. <p>- Other data: research on the subject, postgraduate teaching, continuing training, publications, etc.</p> | <ul style="list-style-type: none"> - 10 brachial plexus surgeries or palsy palliative surgeries in a year. - 40 peripheral nerve surgeries (with or without grafts) in a year. - 35-40 muscle transfer with vascular microsurgery. - Accredited postgraduate teaching: Unit participation in the internship and residency programme of the Centre. - Participation in research projects and publications in the field^a. - Continuing training programme standardized and authorized by the centre's board of directors. - Clinical multidisciplinary sessions, at least once a month, in order to make decisions and coordinate treatments. |
| <p>► Specific resources of the Reference Centres, Services and Units:</p> <ul style="list-style-type: none"> - Human resources required for adequate performing of brachial plexus surgery. - Basic education of the team members^b. | <ul style="list-style-type: none"> - 1 plastic surgeon and/or traumatologist and/or neurosurgeon. - 1 neurophysiologist. - Nursing and surgical staff. - Surgeon with, at least, 2 years experience in brachial plexus pathology, in hand surgery and in peripheral nervous system. - Neurophysiologist with experience in intraoperative monitoring using evoked potentials. |

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| <ul style="list-style-type: none"> - Specific equipment required for adequate performing of brachial plexus surgery. <p>► Resources from other units and services besides those belonging to the Reference Centres, Services and Units required for adequate performing of brachial plexus surgery.</p> | <ul style="list-style-type: none"> - Nursing and surgical staff with experience in patients with brachial plexus pathologies. - Surgical microscope. - Surgical loupes. - Neurostimulator. - Intraoperative monitoring systems. - Specific care for peripheral nervous system. - Anaesthesia services/unit. - Intensive care services/unit. - Rehabilitation services/unit, with experience in brachial plexus surgery. - Neurology services/unit, with experience in brachial plexus surgery. - Radiodiagnosis services/unit, including CT scan and MRI. - Psychiatry services/unit. - Clinical psychology services/unit. |
| <p>► Procedure and clinical results indicators of the Reference Centres, Services and Units ^c:</p> | <p>The indicators will be agreed with the Units that will be designated.</p> |
| <p>► Existence of an adequate IT system (Type of data that the IT system must include to allow identification of the activity and evaluation of the quality of the services provided)</p> | <ul style="list-style-type: none"> - Filling up the complete MBDS of hospital discharge. - The unit must have a <i>registry of patients with brachial plexus palsy</i> which at least must include: <ul style="list-style-type: none"> - Medical record number. - Date of birth. - Sex. - Patient's habitual region of residence. - Admission date and discharge date. - Type of admission (Emergency, planned, other). |

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| | <ul style="list-style-type: none"> - Type of discharge (Home, hospital transfer, voluntary, death, transfer to a healthcare centre, other.) - Service in charge of patient's discharge. - Main diagnosis (ICD-9-CM). <ul style="list-style-type: none"> ♦ Type of brachial plexus injury: radicular avulsion or pre-ganglionic injury; post-ganglionic injury; supraclavicular; infraclavicular; double level; partial; upper: (Duchene-Erb) C5-C6 roots or primary upper trunk; middle: (Remack) C7 root or primary middle trunk; lower: (Déjerine-Klumpke) C8-D1 roots. - Other diagnosis (ICD-9-CM). - Diagnostic procedures provided to the patient (ICD-9-CM). - Therapeutic procedures provided to the patient (ICD-9-CM): <ul style="list-style-type: none"> ♦ Surgical procedures performed to the patient related to brachial plexus surgery: type of procedure and date when it was performed. ♦ Other therapeutic procedures: type of procedure and date when it was performed. - Complications (ICD-9-CM): <ul style="list-style-type: none"> ♦ After effects of surgery. - Patient monitoring. <p>- The unit must have the required data which should be sent to the Spanish National Health Service Reference Centres, Services and Units Appointment Commission Secretariat for yearly reference unit monitoring.</p> |
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^a Criteria to be assessed by the Appointment Commission.

^b Experience will be accredited by certification from the hospital manager.

^c Clinical results standards, agreed to by the experts group, will be assessed, initially by the Appointment Commission, while in the qualification process, as more information from the Reference Centres, Services and Units is being obtained. Once qualified by the Appointment Commission, the Quality Agency will authorize its compliance, as for the rest of guidelines.

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