

Internal quality register for joint prostheses

The quality register for joint prostheses at the St. Olavs Hospital could become a useful tool for quality assurance and research.

The «fast-track» model, which is a knowledge-based, multimodal treatment model for surgical activities (1), was introduced for elective hip and knee prosthetic surgery at St. Olavs Hospital from September 2010. This reorganisation entailed considerable changes in the treatment sequence. We therefore decided to establish an internal quality register, since it has been proven that such registers permit better quality control (2) and serve as a basis for research. The register complies with the requirements of the Health Services Supervision Act (3).

In this article, we wish to provide a brief description of our experiences with the establishment of the quality register. We have received help from Vejle Hospital in

Denmark, the National Arthroplasty Register at Haukeland University Hospital and the Centre for Clinical Documentation and Evaluation.

Legal basis

A medical quality register is considered to be a health register, and is therefore subject to permission from The Data Inspectorate (4) or separate legislation. We concluded, however, that the registry in question is internal to the hospital, which is allowed by the terms of the Health Personnel Act (5). Hence, permission would not be required. However, registry data cannot be linked to data from other institutions without prior anonymisation. Identifiable information is registered,

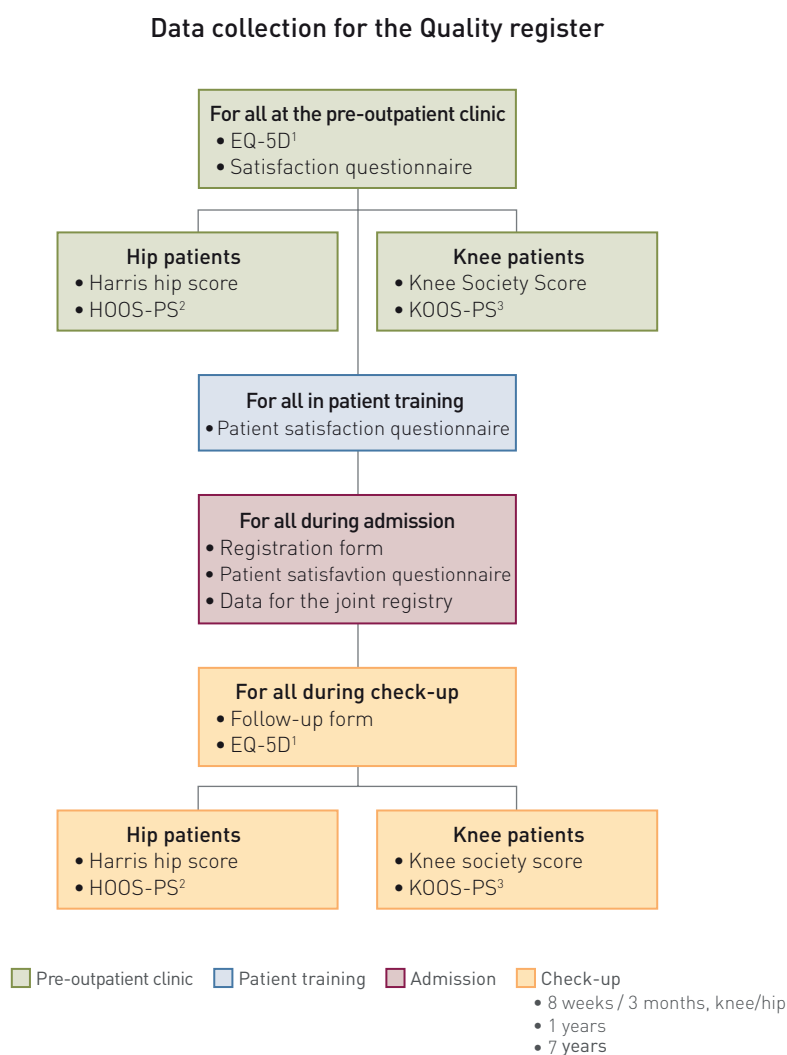
so that we can follow the patient until his or her final check. It is a precondition that the patient has provided prior voluntary, explicit and informed consent. It remains unclear whether the consent form will be sufficient for any future research projects, and the Regional Committee for Medical and Health Research Ethics (REC) will have to assess this issue. Permission from The Data Inspectorate may be required.

Registry data are safely stored on a data server owned and operated by the IT division of Central Norway Regional Health Authority (Hemitt). The project is endorsed by the data protection ombudsman at St. Olavs Hospital.

Collection and processing of data

In 2008, seven health registries were given the status of national quality registries, including the National Registry of Joint Prostheses. At the same time, Hemitt was commissioned to develop a nationwide solution for electronic registration on behalf of all the registries. Since this work was thought to require some time, we were recommended to establish a temporary data base. We use paper-based forms that follow the patient through the entire treatment sequence and are finally scanned and machine-read.

The entire professional community has been involved in the selection of clinical and process-related variables. The collection of data is partly based on self-reporting by patients and partly on registration by physiotherapists and nurses (Figure 1). Specific forms used for the joint affliction in question, such as the Harris Hip Score, the Knee Society Score, the Hip Dysfunction and Osteoarthritis Outcome Score-Physical Function Short Form (HOOS-PS) and the Knee Injury and Osteoarthritis Outcome Score-Physical Function Short Form (KOOS-PS), a prosthetic-specific form (National Joint Prostheses Registry) and a health questionnaire (EQ-5D) are all completed. Patients are also requested to fill in an anonymous form on patient satisfaction. The patient registration form contains five parts. The first part is completed in the context of a clinical consultation with an orthopaedist. The patients are handed out a form to report satisfaction, which will be used to provide a continuous assessment during the entire treatment sequence. Then a physiotherapist undertakes a function test of the afflicted joint. The second stage, describing anaesthetics and the surgical procedure, is completed perioperatively by the nurse



¹ EQ-5D = EuroQol Group health-related quality of life measurement

² HOOS-PS = Hip disability and Osteoarthritis Outcome Score (HOOS) – Physical Function Short form (PS)

³ KOOS-PS = Knee injury and Osteoarthritis Outcome Score (HOOS) – Physical Function Short form (PS)

Figure 1: Flowchart for collection of data for the internal quality register for joint prostheses at St. Olavs Hospital

anaesthetist in the department of surgery. The third part, describing the duration of anaesthetics, pain, nausea and mobilisation, is completed by the intensive-care nurse in the intensive-care unit. The fourth part is completed by the nurse on the ward, and includes information on pain, use of analgesics and mobilisation. The fifth stage is completed by the ward nurse at discharge, and includes registration of complications, if any, during the hospitalisation.

The patients should be followed up by a physiotherapist after eight weeks (for a knee prosthetic) or three months (for a hip prosthetic), and subsequently after one year and seven years. The same scoring forms are completed again. Information on professional status, any new complications and patient satisfaction is registered. All the paper-based forms are scanned into the data base. Selected registry data are reported to the project group on a monthly basis and to the management group every quarter.

Our experience

After six months' operation, altogether 217 of a total of 222 operations had been registered. Four of the missing answers related to the first three months of operation. Altogether 193 of the 212 patients completed the questionnaire on patient satisfaction, a 91 per cent response rate. Ten patients did not want to respond, and nine responses were missing. The high response rate indicates that we have found a user-friendly system. We believe that a local ICT solution with repeated logins from a variety of computers, undertaken by many different people in many different locations at different times, would have yielded a far lower response rate. A paper-based solution, on the other hand, also has some weaknesses: Parts of the form can be omitted, papers can go astray and errors may occur during the scanning process. All data are visually inspected, which is very time-consuming.

Patients often have to reply to the same questions that are used during the establishment of the case history for the regular

patient record. Current ICT solutions provide no opportunity for extracting data from the patient record for use in the quality register. If such an option is introduced, one may consider replacing the current paper-based system to avoid double registration. In the long term, we wish to link our data to a nationwide registration system. We believe that the quality register can become an important tool to ensure easy access to information on treatment quality, patient satisfaction and treatment processes. The effect of changes to the treatment sequence can thus be better documented.

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3. Lov om statlig tilsyn med helsetjenesten, 1984.
4. Helseregisterloven §§ 6 til 8
5. Helsepersonelloven § 26

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