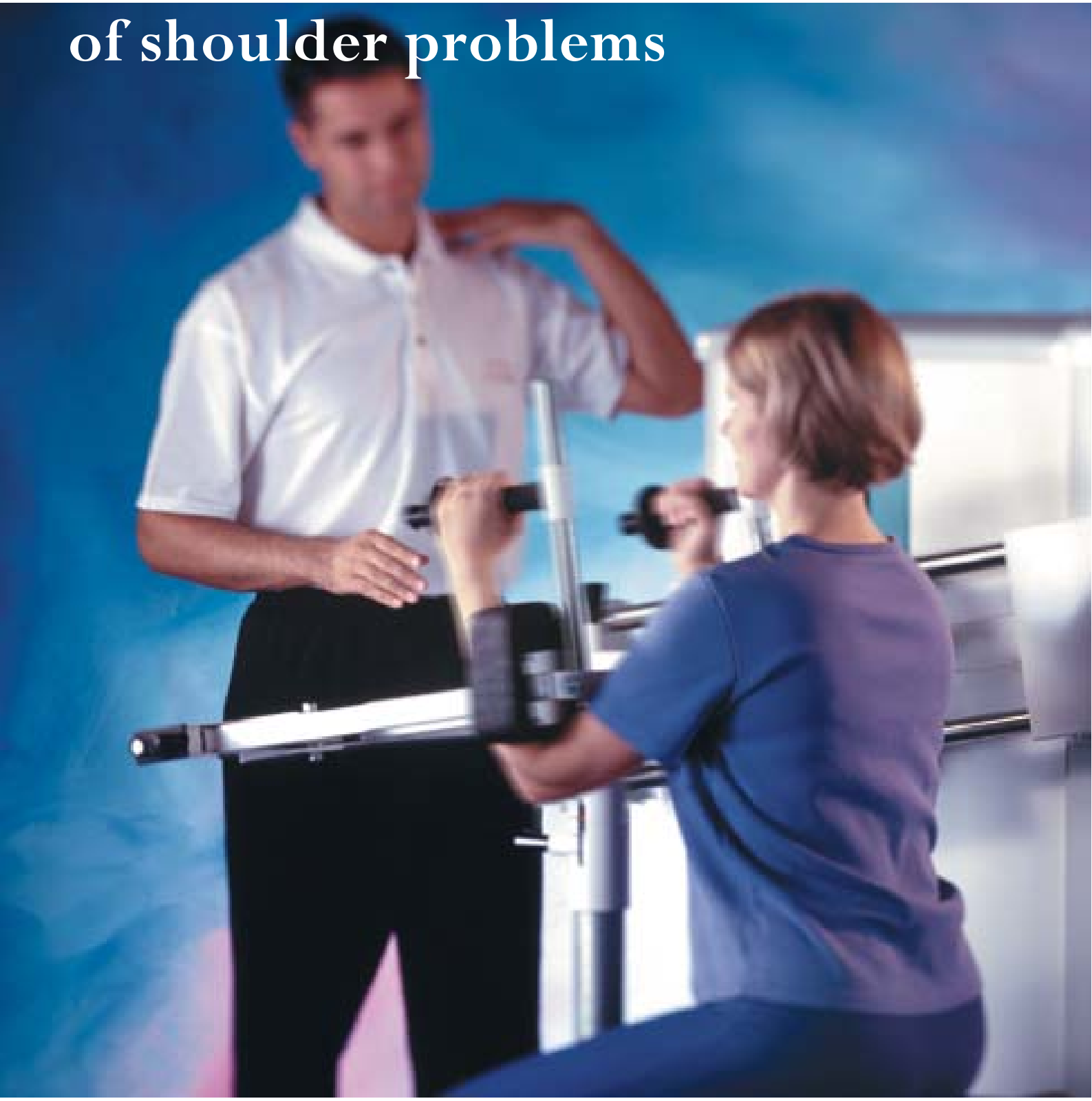
treatment and rehabilitation of shoulder problems



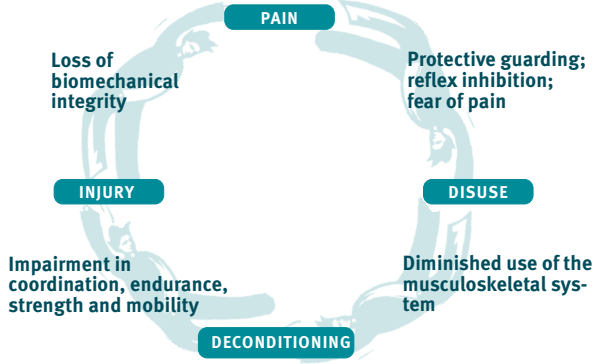
The glenohumeral joint provides the largest range of motion of any joint in the body, but it has the least stability. The surrounding muscles, tendons and ligaments provide the necessary stability for the glenohumeral joint; as they literally hold the joint together. Any injuries to the soft tissues surrounding the joint directly affect the stability and strength of the shoulder, often resulting as persistent shoulder pain and disability. Spontaneous recovery of severe shoulder problems is uncommon, but recent research shows that active, exercise-based treatment is effective in the treatment of shoulder disorders.

DBC
DOCUMENTATION BASED CARE

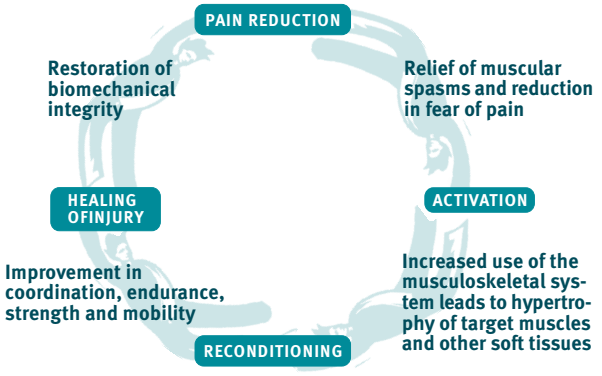
System Profile

The DBC Active Shoulder Care system is intended for the nonoperative treatment and postoperative rehabilitation of shoulder disorders, suiting up to the needs of patients that experience problems of the most severe type.

Injury and subsequent pain, protective guarding and avoidance behavior expose people to functional deterioration.



The DBC Active Shoulder Care system aims at promoting injury healing, restoring normal function and preparing the patient for normal life activity in parallel with pain reduction.



Active treatment is preceded by the creation of a patient profile on the basis of DBC assessment methods relying on clinical examination, questionnaires and functional evaluation. The patient's pain characteristics, physical impairment and associated psychological distress, and categorisation of the diagnosis are documented. The design and length of the treatment programme is based on the results of the evaluations.

The system suits the following problem patterns:

- Shoulder dislocation
- Shoulder instability
- Impingement and rotator cuff tear
- AC separation
- Shoulder arthritis
- Frozen shoulder

Aims	
Phase I	Initial Healing of Tissue Injury: • Reducing pain & inflammation • Maintaining ROM • Proximal shoulder blade stability • Maintaining general fitness
Phase II	Remodeling of the Tissue Injury: • Restoring mobility • Improving mobility • Proximal stability
Phase III	Return to Full Function: • Full ROM • Proximal stability • Glenohumeral control • Humeroscapular control

programme design and components of treatment

The treatment program consists of several elements designed to support the critical success factors. The modular structure enables entirely individual treatment programs to be built based on the needs.

The aim is to obtain maximum obtainable range of motion and full function without compromising the healing of injury or surgical repair. Targeted (isolated) exercises are used to correct the specific deficits, and functional exercises are used to improve the overall function. The duration and content of the treatment are planned based on the diagnosis and severity of the condition, relying on the proprietary DBC database on most beneficial practices.

The manuals and software guide the treatment process with providing specific criteria when and how to progress with treatment. In order to exploit the positive influence that group behavior is known to have on musculoskeletal treatment results, the treatment sessions are performed in small groups.

	Means
Phase I	**Immobilization / ROM Limitation:** • Immobilization / Cold packs / NSAIDs • Passive range of motion (PROM) exercises • Isometric scapular retraction exercises • General aerobic exercises
Phase II	**Applying Low Level of Loading with Limited ROM:** • Active assisted range of motion (AAROM) exercises • Active range of motion (AROM) exercises • Dynamic scapular exercises
Phase III	**Progressive Exercises with full ROM:** • AROM exercises • Dynamic exercises • Specific rotation exercises • Functional strength and endurance exercises in all movement directions

Therapist's Role

The role of the therapists is to target the loading accurately during device and functional exercises especially at the early phase of the active treatment as it plays a crucial role in the success of the treatment program.

Individual Guidance, Cognitive and Behavioural Support

The support and guidance of our experienced physiotherapits is an essential factor in achieving the outstanding results in the DBC Active Shoulder Care System.

Device Exercises

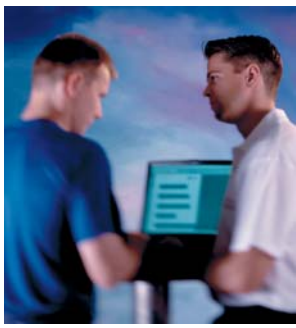
For the key component, DBC devices are used to guide the patients through a series of planned, controlled exercises. With the help of the skilful therapist the targeted muscle groups can be safely loaded.

Functional Exercises

Functional exercises are integrated to improve overall function in daily activities.

Monitoring progress

The computer software produces follow-up reports for patients, doctors and payers based on valid outcomes, presented in a clear and transparent manner. The results area powerful too to motivate the patient in continuing the treatment.



system specifications

Medical Devices

Medical devices produced by DBC represent leading technological innovations in the field of exercise-based rehabilitation. They are specifically designed to integrate well with the specific challenges set by the individual treatment programs. The devices feature several competitive advantages appreciated by the treatment professionals worldwide.

Correct movement patterns

The selected movement patterns are a result of thorough biomedical research. The correct movements of the glenohumeral and other joints are restored using proper movement patterns and isolated movements and variable resistance where applicable.

Targeted exercises

Isolation and activation of selected muscle groups is critical when treating challenging problems, such as glenohumeral instability and impingement. For example, the Glenohumeral Rotation device safely targets the desired muscle groups of rotator cuff while simultaneously guiding the correct movement pattern.

Safety

Individual adjustments can be made to each device before performing the exercises. In technology design special emphasis has been put on smooth interaction between the patient and the therapist during the treatment. In addition, small increments in loading, sensitive motion and lowest friction today contribute both to the safety and ease of use.

Quality Management:

A quality management application is included in the DBC service concept. In addition to software and general treatment quality management guidelines, each clinic has an access to a secured online database to monitor.

The quality assurance makes it possible to compare local, national and international results. With the structured quality assurance it is possible to ensure effectiveness if the treatment in real-life conditions throughout all DBC clinics since major deviations from required quality are noticed early and improvements can be made.

Overview of the patient flow

- Number of patients by diagnostic groups
- Patient demographics
- Type and length of interventions

Outcomes

- Pain
- Response rate concerning pain reduction
- Physical impairment
- Range of motion
- Absenteeism from work

MLU

SBA

GHR

Active Shoulder Care System

Treatment Concept

Software
Questionnaires
Manuals

Medical Devices

Shoulder Treatment
- GHR Glenohumeral Rotation

Multipurpose, upper body
- SBA Shoulder Blade Adduction
- MLU Multipurpose Lowfriction Unit

Service Concept

Education
Helpdesk
Treatment Concept Updates
Patient Data Analysis

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