

Joint Tissue Examination and Damage Exam (JADE) Protocol for Quantification of Joint Ultrasound Findings in Hemophilia Arthropathy

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Technology description

The JADE protocol is a musculoskeletal ultrasound protocol, providing an algorithm to quantify intraarticular soft tissue expansion, osteochondral changes, inflammation and vascular remodeling in hemophilic joints. Additionally the protocol enables charting of descriptive findings such as (bloody) effusions or soft tissue derangements (such as tendon abnormalities) in a simple, standardized fashion. The protocol can be tailored to individual joint findings that can be monitored longitudinally. The JADE protocol is based on point-of-care ultrasound principles, easy to learn and to administer, and ideal for use in routine clinical practice as well as an outcomes research tool.

The JADE Protocol (including Instructional Manual, Charting Template and Atlas) is now available for clinical use and as a research outcome tool for clinical trials and other studies. The JADE Protocol is copyrighted by the University of California San Diego and is subject to licensing.

Hemophilic arthropathy is a frequent and debilitating comorbidity. Point-of-care musculoskeletal ultrasound (MSKUS) with Power Doppler capacity has become critical during the past several years to evaluate progression of joint disease longitudinally, as well as to detect the presence or absence of joint bleeding associated with joint pains in a timely fashion.

With the advent of emerging new treatment modalities the hemophilia population is aging, bringing hemophilic arthropathy rapidly into focus. Based on the increasing need to develop and validate a joint ultrasound imaging protocol that could easily be used in clinical practice as well as a research outcome tool **UC San Diego Clinician-Investigators and Collaborators, specialized in Hemophilia, Ultrasound, Musculoskeletal Medicine and Radiology (Drs. Annette von Drygalski, Eric Chang and Randy Moore, as well as Lena Volland, DPT) developed and validated** a unique MSKUS protocol, specifically adept to assess the extent of hemophilic arthropathy in the acute and chronic setting.

This protocol is named JADE protocol (Joint Tissue Assessment and Damage Exam), as described below. The protocol is taught “hands on” during the CME accredited course “Musculoskeletal Ultrasound in Hemophilia” , and is also accessible through online modules. <https://cme.ucsd.edu/muh/>

Related Materials [von Drygalski, A., Moore, R. E., Nguyen, S., Barnes, R. F. W., Volland, L. M., Hughes, T. H., Du, J. and Chang, E. Y. \(2018\), Advanced Hemophilic Arthropathy: Sensitivity of Soft Tissue Discrimination With Musculoskeletal Ultrasound. J Ultrasound Med](#)
[Nguyen S, Lu X, Ma Y, Du J, Chang EY, von Drygalski A. Musculoskeletal ultrasound for intra-articular](#)

[bleed detection: a highly sensitive imaging modality compared with conventional magnetic resonance imaging. J Thromb Haemost 2018](#)

[LM Volland, Jenny Y Zhou, Richard FW Barnes, Rebecca Kruse-Jarres, Bruno Steiner, Doris Quon, Cindy Bailey, Michelle Brackman, Eric Y Chang, Annette von Drygalski. Development and validation of the "Joint Activity and Damage Exam" \(JADE\) for quantitation of structural abnormalities by musculoskeletal ultrasound \(MSKUS\) in hemophilic joints: intra- and inter-rater reliability. Res Pract Thromb Haemost. 2017; 1\(Suppl. 1\):p158](#)

For more information regarding the licensing process and applicable fees contact Donna Shaw via email donnashaw@ucsd.edu or by phone at 858-534-6086.

Application area

Precision charting tool of MSKUS findings in hemophilic joints for clinical use and for longitudinal quantification of joint health status for research purposes, such as clinical trials.

Institution

[University of California, San Diego](#)

Inventors

[Annette von Drygalski](#)

[Eric Chang](#)

联系我们



叶先生

电话：021-65679356

手机：13414935137

邮箱：yeyingsheng@zf-ym.com