AMERICAN COLLEGE OF RHEUMATOLOGY POSITION STATEMENT

SUBJECT: Use of Diagnostic Imaging in Rheumatology Practice

PRESENTED BY: Committee on Rheumatologic Care

FOR DISTRIBUTION TO: Members of the American College of Rheumatology

Medical Societies Members of Congress

Health Care Organizations/Third Party Carriers

Managed Care Entities

POSITION:

- 1. The American College of Rheumatology supports the ordering, performance and/or interpretation of imaging studies of the musculoskeletal system as an integral part of the rheumatology practice. A rheumatologist's unique training in the clinical diagnosis and management of rheumatic diseases, as well as demonstrated abilities and competence in diagnostic imaging, combine to increase the relevance of imaging studies performed or interpreted by a rheumatologist which can be better tailored to an individual patient's problem(s).
- 2. The ACR further supports the propriety of the assessment and collection of appropriate fees for these services. The ACR supports reimbursement by Medicare and other insurers for the performance and interpretation of musculoskeletal imaging studies and bone mineral density measurements by rheumatologists.

BACKGROUND:

Rheumatologists routinely evaluate, diagnose, and manage patients with arthritis, systemic rheumatic autoimmune and auto-inflammatory syndromes, osteoporosis and metabolic bone diseases (such as osteoporosis) as well as other disorders of connective tissues, muscles, bones and joints. Diagnostic and interventional imaging of the musculoskeletal system provides rheumatologists with information critical to the diagnosis, evaluation of damage, and progression or halting of progression of arthritic diseases (1-3). On conventional radiographs rheumatologists can assess changes and radiographic disease progression more accurately in the context of other activity measures and clinically relevant information, allowing for more robust decision-making. This is in contrast to most radiologists who are not formally trained in the subspecialty of musculoskeletal radiology. (4). Radiologic progression of erosions and joint space narrowing in the first year of disease predicts further damage. Therefore, monitoring plain radiographs is an important component of patient management (5). In addition, both musculoskeletal ultrasound (MSUS) and Magnetic Resonance Imaging can help rheumatologists identify patients with early inflammatory changes, allowing for prompt diagnosis and treatment (6-8).

Rheumatologists have a high level of awareness of the increased prevalence and associated morbidity of osteoporosis related to many rheumatologic conditions. It is also well known that chronic glucocorticoid use, often prescribed to treat rheumatologic conditions, predisposes

patients to bone loss (15). Rheumatologists are therefore ideally positioned to order bone densitometry scans to screen appropriate patients, and when trained, to interpret these scans (9-13,16).

During specialty training, board certification, and recertification, rheumatologists are required to demonstrate proficiency in the interpretation of musculoskeletal conventional radiographs and dual energy x-ray absorptiometry (DXA); many rheumatologists pursue additional training in MSUS and DXA. Many rheumatologists have incorporated MSUS* into clinical practice to aid in identifying articular and periarticular pathology, efficacy of therapy, and to assist in joint aspiration and injection.

The United States directors of rheumatology training programs have sanctioned a core curriculum to ensure program quality and consistency. This core curriculum requires that rheumatology fellows and those individuals in clinical practice demonstrate understanding and competency in the plain radiographic assessment of normal and diseased joints, bones, periarticular structures, and prosthetic joints. They must also demonstrate competency in the evaluation of results from other diagnostic imaging techniques of the musculoskeletal system as determined by radiologists including radionucleotide scans, CT scans, and MRI (14). Rheumatology fellowship also includes comprehensive training in osteoporosis screening, prevention, and management. Finally, pathways for certification in MSUS have been developed to include the RhMSUS program available through the American College of Rheumatology.

As a result of the formal training that Rheumatologists receive in musculoskeletal imaging, as well as Rheumatologists' comprehensive understanding of the clinical issues affecting their patients, they are particularly well qualified to order and interpret appropriate imaging studies, perform image-guided procedures, and use MSUS. Rheumatologists integrate imaging techniques in conjunction with dynamic clinical maneuvers, results of other studies, and patient-specific clinical information to diagnose, treat and monitor patients with rheumatic diseases. Radiographic studies of the musculoskeletal system performed in the context of providing direct care result in more individualized, timely, and focused approaches for patients. Given their experience, training, certification, and ability to apply the findings of these studies to the clinical care of patients, rheumatologists should continue to provide these imaging services and receive appropriate reimbursement. However, a rheumatologist should only receive reimbursement for primary interpretation of studies and not for those already interpreted by radiologists.

References:

- 1. Hua, C., Daien, C. I., Combe, B., & Landewe, R. (2017). Diagnosis, prognosis and classification of early arthritis: results of a systematic review informing the 2016 update of the EULAR recommendations for the management of early arthritis. RMD Open, 3(1), e000406.
- 2. Möller I, Loza E, Uson J, Acebes C, Andreu JL, Batlle E, et al. (2017). Recommendations for the use of ultrasound and magnetic resonance in patients with rheumatoid arthritis. Reumatol Clin. https://doi.org/10.1016/j.reuma.2016.08.010
- 3. D'Agostino, MA et al. Diagnosis and management of rheumatoid arthritis; what is the current role of established and new imaging techniques in clinical practice? Best Pract Res Clin Rheumatol. 2016;30: 586-607.

- 4. Bruynesteyn K et al. Progression of rheumatoid arthritis on plain radiographs judged differently by expert radiologists and rheumatologists. J Rheumatology 2004; 31: 1088-94.
- Tobon G et al. First year radiographic progression as a predictor of further progression in 5. early arthritis: results of a large national French cohort. Arthritis Care Res (Hoboken) 2013;65: 1907-15.
- Nam JL, D'Agositno MA. Role of ultrasound imaging in individuals at risk of RA. Best 6. Pract Res Clin Rheumatol. 2017; 31:71-79
- 7. Horton, S. C., Tan, A. L., Wakefield, R. J., Freeston, J. E., Buch, M. H., & Emery, P. (2017). Ultrasound-detectable grey scale synovitis predicts future fulfilment of the 2010 ACR/EULAR RA classification criteria in patients with new-onset undifferentiated arthritis. RMD Open, 3(1), e000394.
- Hunt L et al. Magnetic resonance imaging in individuals at risk of rheumatoid arthritis. 8. Best Pract Res Clin Rheumatol. 2017;31: 80-89.
- 9. Wall, E., Walker-Bone, K. Use of bisphosphonates and dual-energy X-ray absorptiometry scans in the prevention and treatment of glucocorticoid-induced osteoporosis in rheumatology. QJM 2008 Apr: 101(4): 317-23. Doi 10.1093/qjmed/hcm126. Epub 2008 Feb 12.
- 10. Ledwich, LJ, Clarke, K. Screening and treatment of glucocorticoid-induced osteoporosis in rheumatoid arthritis patients in an urban multi specialty practice. J Clin Rheumatol. 2009 Mar; 15(2): 61-4. Doi: 10.1097/RHU.0b013e31819b65bd.
- Baillet, A. et al. Points to consider for reporting, screening for and preventing selected 11. comorbidities in chronic inflammatory rheumatic diseases in daily practice: a EULAR initiative. Ann Rheum Dis. 2016 Jun; 75(6): 965-73. Doi: 10:1136/annrheumdis-2016-209233. Epub 2016 Mar 16.
- Mullen, MB., Saag, KG. Evaluating and mitigating fracture risk in established rheumatoid 12. arthritis. Best Pract Res Clin Rheumatol. 2015 Aug-Dec; 29(4-5): 614-27. Do: 10.1016/j.berh.2015.09.005. Pub 2015 Nov 12.
- 13. Tanner, SB. Dual-energy X-ray absorptiometry in clinical practice: new guidelines and concerns. Curt Opin Rheumatol. 2011 Jul; 23(4): 385-8. Doi: 10.1097/BOR.0b013e328347d90c.
- 14. ACGME Program Requirements for Graduate Medical Education in Rheumatology (Internal Medicine) (pp. 1-40). 2017.
- Canalis, E. Mechanisms of glucocorticoid-induced osteoporosis. Curr Opin Rheumatol. 15. 2003 Jul; 15(4): 454-7.
- Tanner, SB, Moore CF Jr. A review of the use of dual-energy X-ray absorptiometry 16. (DXA) in rheumatology. Open Access Rheumatol. 2012;4: 99-107. Published 2012 Dec 11. doi: 10.2147/OARRR.S29000

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^{*}The ACR also has a separate position statement on musculoskeletal ultrasound that can be accessed here: https://www.rheumatology.org/Portals/0/Files/Musculoskeletal%20Ultrasound.pdf

^{**} The ACR has a separate position statement on bone density measurement and the role of rheumatologists in managing osteoporosis that can be accessed here: https://www.rheumatology.org/Portals/0/Files/Bone-Density-Measurement-Rheumatologist-Role-Position-Statement.pdf