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Letter to the Editor

International endorsement of the ESCEO algorithm for management of knee osteoarthritis in clinical practice

In December 2014, the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO) published an algorithm recommendation for the management of knee osteoarthritis (OA) [1]. The algorithm set out, for the first time, to provide practitioners with a step-wise, multi-modal approach to therapy, allowing them to optimize OA management in daily practice. Since 2014, this guidance document has received international endorsement, with translation, adaptation to the local context, and publication in China, Russia, and South-East Asia [2–4]. Subsequently, in 2016 the ESCEO published a supplement to this journal, providing an updated assessment of the literature for selected pharmacological interventions in OA and focusing on real-life data [5].

Following publication, the ESCEO sought to discover if the degree of endorsement observed in the literature was reflected by uptake of the algorithm in clinical practice. A survey was conducted among physicians attending the 2015 WCO-IOF-ESCEO Congress in Milan, Italy. Almost 200 completed questionnaires were received mostly from orthopedists and rheumatologists involved in the routine treatment of knee OA worldwide ($N = 198$ in Europe, Eastern Europe, Asia, Middle East, Canada, and Latin America). Overall, physicians rated the ESCEO algorithm with a mean score of 7.7 for utility, feasibility and suitability. Detailed results of the survey were presented at the 2017 WCO-IOF-ESCEO Congress in Florence, Italy to an audience of 800 physicians from Europe, Asia, North Africa, South and Central America. This audience were asked to reflect on various aspects of the algorithm, using tele-voting to record their responses. Tele-voting confirmed the earlier assessment, with these physicians rating the ESCEO algorithm in the higher range for utility, ease of application (feasibility) and suitability to clinical practice.

The step-wise approach to patient management outlined in the ESCEO algorithm was found to be in general agreement with the approach adopted by physicians in clinical practice. Most physicians (74%) preferred to use paracetamol for ≤ 14 days for the short-term control of symptoms in OA, shifting to non-steroidal anti-inflammatory drugs (NSAIDs; topical or short-term oral) if pain was not controlled, on top of background therapy with symptomatic slow-acting drugs for OA (SYSADOA). In line with a recent literature survey demonstrating increasing evidence of safety issues with paracetamol, including cardiovascular, gastrointestinal, and renal toxicity [6], over half of physicians considered that paracetamol is not suitable for medium to long-term control of OA pain. Thus, according to the survey, while paracetamol remains a first-line option for rescue analgesia in the short term, it seems that its recommendation for use on a regular basis might be open for discussion. Rather, in Step 1 we recommend chronic use of a SYSADOA with demonstrated efficacy, that is, prescription patented crystalline glucosamine sulfate,

plus short-term paracetamol only as rescue analgesia, as needed. As such, the next review of the ESCEO algorithm, scheduled to start in March 2018, will consider increasing knowledge of recent literature and physician preferences to guide future recommendations for optimizing the long-term management of knee OA using combination therapies, in order to reduce the need for surgery [7].

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References

- [1] Bruyere O, Cooper C, Pelletier JP, Branco J, Brandi ML, Guillemin F, et al. An algorithm recommendation for the management of knee osteoarthritis in Europe and internationally: a report from a task force of the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO). *Semin Arthritis Rheum* 2014;44:253–63.
- [2] Zhang Z, Duan X, Gu J, Huang C, Jiang L, Li Z, et al. The European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO) algorithm for the management of knee osteoarthritis is applicable to Chinese clinical practice: a consensus statement of leading Chinese and ESCEO osteoarthritis experts. *Chin J Pract Intern Med* 2016;36:762–72.
- [3] Denisov L, Tsvetkova E, Golubev G, Bugrova O, Dydykina I, Dubikov A, et al. The European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO) algorithm for the management of knee osteoarthritis is applicable to Russian clinical practice: A consensus statement of leading Russian and ESCEO osteoarthritis experts. *Rheumatol Sci Pract* 2016;54:641–52.
- [4] Saengnipanthkul S, Waikakul S, Rojanasthien S, Totemchokchayakarn K, Srinkapaibulaya A, Cheh Chin T, et al. Differentiation of patented crystalline glucosamine sulfate from other glucosamine preparations will optimize osteoarthritis treatment. *Int J Rheum Dis* 2017. <http://dx.doi.org/10.1111/1756-185X.13068> [Epub ahead of print].
- [5] Bruyere O, Cooper C, Pelletier J-P, Maheu E, Rannou F, Branco J, et al. A consensus statement on the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO) algorithm for the management of knee osteoarthritis—from evidence-based medicine to the real-life setting. *Semin Arthritis Rheum* 2016;45:S3–11.
- [6] Roberts E, Delgado Nunes V, Buckner S, Latchem S, Constanti M, Miller P, et al. Paracetamol: not as safe as we thought? A systematic literature review of observational studies. *Ann Rheum Dis* 2016;75:552–9.
- [7] Neuprez A, Neuprez AH, Kurth W, Gillet P, Bruyere O, Reginster JY. Profile of osteoarthritic patients undergoing hip or knee arthroplasty, a step toward a definition of the “need for surgery”. *Aging Clin Exp Res* 2017. <http://dx.doi.org/10.1007/s40520-017-0780-1> [Epub ahead of print].

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