Methods: Patient consultation.— We asked people with RMD to complete an online survey about council policies. The survey asked whether, and how, these policies restricted them, in addition to what could be done to address and solve these restrictions. The questions focused on healthcare, support and the provision of medical aids. After identifying the three greatest challenges for residents, the Dutch Arthritis Society (DAS) focused on three main recommendations, which were sent via letter to local politicians. This letter included a clear call to action for better local arthritis care.

Online tool.— We also created an online tool that linked the letter to the email addresses of all local party leaders in the 380 Dutch municipalities. The online tool enabled local residents to simply forward the letter to the party leaders in their council. The tool also allowed residents to include their personal experiences.

Results: Patient consultation. More than 2,200 people with RMD completed the survey. The three greatest points of improvement included:

- Sports and leisure facilities for people with RMD – 80% of all respondents were interested in sport facilities that suit their needs. However, 75% were unsure if there were any available in their council.
- Better communication and information – 40% of all respondents indicated that it was unclear where and how they could apply for care with their council. Respondents also indicated that councils lacked expertise regarding the impact of RMD.
- A threshold-free and accessible RMD-friendly environment – Municipalities must consider RMD-friendly access to roads, public transport and public buildings.

Online tool: A total of 10,000 emails were sent to party leaders, reaching over half of all municipalities. The majority of feedback from party leaders was positive. Some residents were invited to introduce themselves, attend a meeting or take a seat on a client advisory board. RMD-friendly policies are also now featured on the political agenda of many local councils.

Conclusion: This campaign has put RMD-friendly policies on the council agenda in many municipalities. Clearly, using the momentum of local political developments is an effective tool to create attention. It is also a way to build the network and voice of the movement. Following the campaign, it has become easier for us to speak to the councillors responsible for healthcare and to address the issues raised by people with RMD. For instance, in the autumn of 2018, local RMD patient associations met with the council for the first time. The online tool has allowed for nation-wide participation in this campaign.

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Overdiagnosis and overtreatment in inflammatory arthritis

OP0323

USEFULNESS OF UNIVERSAL ANTINUCLEAR ANTIBODIES TESTING IN EARLY ARTHRITIS REFERRALS

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Background: The CHUC Early Arthritis Clinic, founded in 2011, intends to provide a prompt response to patients with recent onset of symptoms suggestive of an inflammatory rheumatic disease (IRD). By research protocol, all patients are screened at baseline for the presence of antinuclear antibodies (ANA). An analysis was performed to evaluate the usefulness of universal ANA testing in these patients.

Objectives: To evaluate the prevalence and clinical correlates of ANA positivity in early arthritis referrals.

Methods: A retrospective study of consecutive patients referred to the Early Arthritis Clinic between 2011 and 2018 was conducted. Referral is based on the fulfillment of specific criteria: presence of arthritis or clinically suspected arthralgia beginning in the previous 12 months plus suggestive laboratorial abnormalities (rheumatoid factor, C-reactive protein or erythrocyte sedimentation rate). ANA titer (positive = $\geq 1:160$) and cellular staining patterns were assessed by indirect immunofluorescence (Hep-2 cells). Positive (PPV) and negative predictive values (NPV) of an ANA positive test for the diagnosis of an IRD or an ANA-related rheumatic disease (ARD) were determined, along with PPV for the other referral criteria.

Results: 207 patients were included in the analysis (64.3% female, aged 53.9 $\pm$ 18.2 years). The diagnosis of an IRD was confirmed by the rheumatologist in

61.4% of cases, including 11.8% cases of ARD. The most prevalent diagnosis was rheumatoid arthritis (21.7%), followed by unclassified arthritis (8.7%), psoriatic arthritis, osteoarthritis and fibromyalgia (6.8% each). The prevalence of ANA positivity in our cohort was 64.2%, most frequently in low titration (1:160 in 33.8%, 1:320 in 19.3%, 1:640 in 8.7% and 1:1280 in 2.4%) and with a dense fine speckled pattern (45.1%). ANA-positive patients were older (53.7 $\pm$ 17.9 versus 47.9 $\pm$ 18.5, $p=0.05$), more likely to have an IRD (72.9% versus 40.5%, $p<0.001$) but not an ARD (9.0% versus 4.1%, $p=0.186$). PPV for ARD was 9.0% for the 1:160 cut-off titration and 15.6% for the 1:320. Squeeze test (PPV 13.5%), erythrocyte sedimentation rate (PPV 9.9%) and rheumatoid factor (PPV 20.0%), as referral criteria, all performed better at predicting an ARD, compared to an ANA positive testing.

Conclusion: Early Arthritis Clinic referred cohort has a high prevalence of IRD but a low prevalence of ARD which explains the poor predictive value of ANA in this setting, especially when considering lower titers and when compared with specific referral criteria. Thus, universal ANA testing in Early Arthritis Clinic referrals seems unjustified, given its costs and added value. Studies designed to optimize the use of ANA in this context are warranted.

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Cannabis for arthritis: Hype or hope?

OP0324

CANNABIDIOL ELEVATES INTRACELLULAR CALCIUM AND INDUCES APOPTOSIS IN HUMAN ARTICULAR CHONDROCYTES

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Background: Osteoarthritis (OA) is a major public health problem among the increasing aged and obese population, therefore development and investigation of new therapeutics is a major focus of OA research. Endocannabinoids (ECs), cannabinoids derived from the *Cannabis sativa* plant and synthetic cannabinoids have been attributed anti-inflammatory, antitumorigenic, analgesic and psychoactive effects. Over recent years increasing interest in the EC system as a target for therapeutic treatment of joint diseases has emerged [1].

Objectives: Cannabidiol (CBD) is the most abundant non psychoactive compound of *Cannabis sativa* extracts and has been shown to have anti-arthritic potency in animal models [2, 3]. In the present study we investigated the effects of CBD on the cell viability and Ca^{2+} homeostasis in human articular chondrocytes.

Methods: Cell viability, discrimination of intact, apoptotic and necrotic cells and caspase 3/7 activity were determined by Resazurin assays, Annexin-V/7-AAD staining followed by flow cytometry and caspase-Glo 3/7 assay respectively. Intracellular Ca^{2+} was monitored by time-lapse fluorescence imaging. The perforated whole-cell patch clamp technique was used for measuring the cell membrane potential. Western blot analysis was performed for the quantification of Erk1/2 phosphorylation.

Results: C28/i2 and human primary chondrocytes showed a significantly reduced viability with an apoptosis maximum at 10 μ M CBD after treatment with rising amounts of CBD. This apoptotic effect was accompanied by an increase of caspase 3/7 activity. Flow cytometry analysis of Annexin-V/7-AAD stained cells revealed a decline of intact cells and a significant dose dependent increase of the early apoptotic cell population after treatment with CBD.

CBD significantly elevated intracellular Ca^{2+} , accompanied by a depolarization of the cell membrane. This increase of Ca^{2+} was abrogated, when Ca^{2+} was omitted from the bath solution indicating an influx of extracellular Ca^{2+} rather than depletion of internal stores. Several blocking substances were tested to identify the channel/receptor responsible for this Ca^{2+} influx. Cannabinoid receptor1 (CB1) antagonist AM251 significantly inhibited the Ca^{2+} influx triggered by CBD. Moreover, preincubation of chondrocytes with AM251 significantly reduced the toxic effects of CBD. Looking for mediators of the apoptotic CBD effect downstream of the CB1 receptor enhanced Erk1/2 phosphorylation could be detected. However this Erk1/2 activation proved to be unaffected by CB1 receptor blockage.

Conclusion: Micromolar concentrations CBD induce apoptosis in human articular chondrocytes. CBD also triggers an influx of extracellular Ca^{2+} and potentiates Erk1/2 phosphorylation. The apoptotic effects are at least partially