at enrolment in BiKeR. More patients with a history of uveitis treated with ADA were included in BiKeR initiating ADA ($n=98$ of 238, 41.2%). Patients with uveitis had a lower age at JIA onset in comparison to patients without uveitis (mean 3.6 (SD 3.0) versus 7.0 (SD 4.5) years). A total of 142 recurrent (84% of 169) uveitis events were reported in 93 patients and for 27 patients (1.3% of 2,041) was an incident uveitis reported during follow-up. More than one uveitis event was reported for 32 patients with a maximum number of 4 uveitis flares in 3 patients. Nineteen uveitis flares (11.2% of 169) were reported for patients after the age of 18. The longer the time since DMARD discontinuation the fewer uveitis events occurred. Uveitis events were significantly more often reported in the first 24 months after MTX discontinuation (<6 months: OR=3.19, 95%CI: 1.70 to 5.96; 6 to <12 months: OR=2.06, 95%CI: 1.01 to 4.66; 12 to <24 months: OR=2.20, 95%CI: 1.14 to 4.25) and in the first three months after biological DMARD discontinuation (OR=5.4, 95%CI: 1.56 to 18.33). Patients with a MTX dose of ≤ 10 mg/m² at last MTX intake had a higher likelihood for uveitis events (OR=1.40, 95%CI: 1.02 to 1.92).

Conclusion: This is the first study that analyzed the risk of uveitis after DMARD withdrawal. Uveitis relapses are common. Patients who discontinued DMARD therapy were at high risk for uveitis within the first 3 to 24 months after discontinuation. Rheumatologists and ophthalmologists should be aware about this risk which should lead to a regular uveitis screening after DMARD withdrawal.

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OP0166

DISEASE ACTIVITY IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS AFTER SIMULTANEOUS PCV13 AND HIB VACCINATION: A COHORT STUDY

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Background: The safety of vaccination of children with rheumatic diseases is determined not only by the risk of adverse events but also by the risk of exacerbation of the disease. The simultaneous administration of several vaccines can increase the likelihood of these events.

Objectives: To evaluate the clinical and laboratory signs of disease activity in children with juvenile idiopathic arthritis (JIA) after simultaneous vaccination against pneumococcal and Haemophilus influenzae type b (Hib) infections.

Methods: We included hospitalized patients with JIA ages 2 through 18 without serious comorbidity, immunized with polysaccharide conjugate vaccines against pneumococcal (PCV13) and Hib infections. Vaccines were administered (0.5 ml each) concurrently subcutaneously into the deltoid area. In all children before and 3 weeks after vaccination, clinical (joints with active arthritis, uveitis activity) and laboratory signs (increased ESR, concentrations of highly sensitive C-reactive protein – hsCRP, and calprotectin) of JIA activity were assessed. Serum hsCRP and calprotectin were quantified by ELISA. The upper limit of the reference interval for hsCRP was considered (according to the manufacturer's instructions) a value of 8.2 mg/L, for calprotectin – 2.9 µg/ml, and for ESR – > 10 mm/h.

Results: The study included 430 patients with JIA (girls 60.9%), median (IQR) age – 11.1 years (7.3 to 14.4), onset of JIA – 4.7 years (2.4 to 8.6). Patients with persistent oligoarticular JIA numbered 149 (34.7%), polyarticular RF-negative – 148 (34.4%), systemic – 101 (23.4%), enthesitis-related – 20 (4.7%), and polyarticular RF-positive JIA – 12 (2.8%). Biologic disease-modifying antirheumatic drugs (DMARDs) were administered to 278 (64.7%), non-biologic DMARDs (mostly methotrexate) – 282 (65.6%), corticosteroids – 45 (10.5%), and NSAIDs – 18 (4.2%) patients. Three weeks after vaccination, out of 100 (23.3%) patients with initially active joints, signs of active arthritis remained in 96 patients, of which 16 patients had a decrease in the median (IQR) number of active joints by 4 (2 to 8). Among patients without active joints at baseline, signs of active arthritis were not subsequently detected. Before vaccination, 9 patients had uveitis in the exacerbation phase, 7 - in the subacute phase, and 41 - in the remission phase. After vaccination, exacerbation of uveitis persisted in 4 patients. There were no new cases of uveitis or its exacerbation. The dynamics of laboratory signs of JIA activity are presented in Table 1. Initially, the high concentration of calprotectin was found in 191 (44.4%) patients, and after vaccination – in 220 (51.2%) patients; the difference was 6.7% (95% CI 1.0 - 12.5); hsCRP - in 34 (7.9%) and 51 (11.9%) patients; the difference was 4.0% (95% CI 0.6 - 7.3); high ESR – in 76 (17.7%) and

41 (9.5%) patients; the difference was -8.1% (95% CI -11.6 to -4.7), respectively. An independent predictor of new cases of high concentration of hsCRP ($n = 36$), but not new cases of high concentration of calprotectin ($n = 94$), was the initial number of joints with active arthritis – odds ratio 2.37 (95% CI 1.14 - 4.93).

Table 1. Laboratory signs of JIA activity after simultaneous administration of vaccines against pneumococcal (PCV13) and Hib-infections

Variables	Baseline	After 3 weeks	Ratio*	p**
	Geometric mean (95% CI)			
Calprotectin, µg/ml	2.93 (2.70 – 3.17)	3.15 (2.92 – 3.40)	1.08 (0.99 – 1.17)	0.087
hsCRP, mg/L	0.69 (0.60 – 0.78)	0.79 (0.69 – 0.90)	1.15 (0.99 – 1.33)	0.073
ESR, mm/h	4.4 (4.0 – 4.8)	3.7 (3.4 – 4.0)	0.84 (0.78 – 0.90)	0.001

Note. CI – confidence interval. * Ratios of paired observations (95% CI). ** P-value calculated in paired samples t-test.

Conclusion: Simultaneous vaccination against pneumococcal (PCV13) and Hib-infections in children with JIA produced no negative dynamics of the traditional indicators of disease activity (joint activity, uveitis, high ESR). At the same time, 3 weeks after vaccination, an increase in the concentration of calprotectin and hsCRP was found in a small number of patients ($<10\%$).

Disclosure of Interests: None declared

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OP0167

THE ROLE OF LUNG ULTRASOUND IN THE DIAGNOSIS OF INTERSTITIAL LUNG DISEASE IN CHILDREN WITH DERMATOMYOSITIS

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Background: Dermatomyositis is a multi organ autoimmune disease which is commonly complicated with interstitial lung disease. Chest high-resolution computed tomography (HRCT) is still considered the diagnostic gold standard for interstitial lung disease and is quantification, however the increasing use of lung ultrasound may play an important role in the future.

Objectives: The aim of our study was to determine the diagnostic value of lung ultrasound in the detection and progression of interstitial pulmonary disease in patients with dermatomyositis.

Methods: Twenty two subjects with dermatomyositis diagnosed according to the American College of Rheumatology criteria were enrolled (6 males, 16 females; mean age: 15.8 ± 8.8 years; range: 6 to 29 years). All subjects underwent high resolution computed tomography followed by transthoracic ultrasound for comet tail sign detection and pleural irregularity in order to predict the degree of interstitial lung disease. The modified transthoracic ultrasound assessment was performed at 06 thoracic regions each side. The Warrick score was calculated according standard high-resolution chest computed tomography images that were evaluated independently from each other by two thoracic radiologists.

Results: A significantly positive correlation between transthoracic ultrasound and the severity of pulmonary involvement, as seen by the number of B lines (Spearman's correlation coefficient = 0.80, $p < 0.001$), and the number of positive areas (regions with more than 3 B lines) (Spearman's correlation coefficient = 0.75, $p < 0.001$) were found. When compared with high-resolution chest computed tomography as the gold standard method, the sensitivity, specificity, of transthoracic ultrasound was 96.4%, 83.3% respectively. Additionally the number of B lines (sum of 35 or more B lines) and a number of B lines positive areas (7 or more regions with at least 3 B lines) cut off allowed to discriminate the inflammatory pattern (ground glass) to those with structural pattern (honeycomb and pulmonary cysts).

Conclusion: Our study showed that transthoracic ultrasound comet tails scoring system could be useful in the assessment of the pulmonary involvement in patients with dermatomyositis, and should be considered as a primary screening exam to exclude lung involvement, rather than routine chest CT scans in asymptomatic patients.

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OP0168

THE ROLE OF VASCULAR INFLAMMATION MARKERS IN DEFICIENCY OF ADENOSINE DEAMINASE 2

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Background: Deficiency of adenosine deaminase 2 (DADA2) is a monogenic autoinflammatory disease whose pathogenesis has not been clearly elucidated. **Objectives:** To investigate the role of vascular inflammatory factors in the pathogenesis of DADA2, to compare the vascular inflammation profiles of DADA2 patients with different phenotypes, and to compare DADA2 patients with classic polyarteritis nodosa (PAN).

Methods: The study included eighteen DADA2 patients, ten PAN patients, and eight healthy controls. Plasma levels of sST2, sRAGE, Tie-2, sCD40L, Tie-1, sFlt-1, LIGHT, TNF- α , PIGF, IL-6, IL-18, IL-10, MCP-1 were studied by cytometric bead-based multiplex assay panel.

Results: Among the DADA2 patients, five had hematological manifestations, 13 had vasculitic findings, and accompanying immunological findings were present in seven patients. Nine patients had neurological findings, five of whom had neuropathy. Hematological findings were Diamond-Blackfan anemia-like phenotype in four patients and bicytopenia (anemia and thrombocytopenia) in one patient. Disease characteristics of DADA2 and PAN patients revealed that neurological involvement and livedo reticularis were more frequent in DADA2 patients ($p=0.034$ and $p=0.009$, respectively), while myalgia was more common in PAN patients ($p=0.001$).

Plasma levels of Tie-1 and sFlt-1 were higher in the overall DADA2 patients compared to healthy controls and PAN patients ($p<0.001$ and $p=0.004$, respectively). DADA2 patients with PAN-like features had higher sRAGE, Tie-2, and TNF- α levels compared to PAN patients ($p=0.013$, $p=0.003$, and $p=0.001$, respectively). There was no significant difference in the levels of vascular inflammation markers between DADA2 patients with vasculitis and hematological involvement except IL-18. The plasma IL-18 levels were higher in the DADA2 patients with hematological findings compared to vasculitic phenotype ($p=0.001$). Finally DADA2 patients with neuropathy had higher sRAGE concentrations than patients without neuropathy and healthy controls ($p=0.03$ and $p=0.008$, respectively).

Conclusion: We suggest that the high plasma IL-18 levels may be associated with an activated IFN pathway, the pathogenesis of hematologic manifestations, and unresponsive to anti-TNF treatment. Higher concentrations of Tie-1, Tie-2, sFlt-1, sRAGE, and TNF- α distinguished DADA2 patients with PAN-like features from PAN patients. We identified sRAGE as a potential biomarker of neuropathy in DADA2 patients.

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Challenges for working people with RMDs in pandemic times

OP0169-PARE

DEVELOPMENT OF POINTS TO CONSIDER WHEN SUPPORTING PERSONS WITH RHEUMATIC AND MUSCULOSKELETAL DISEASES TO PARTICIPATE IN HEALTHY AND SUSTAINABLE PAID WORK

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Background: Despite earlier diagnosis and improved management of rheumatic and musculoskeletal diseases (RMDs), a work participation gap remains when compared to the general population. To bridge this work participation gap, EULAR's current strategy states that 'by 2023, EULAR's activities and related advocacy will have increased participation in work by people with RMDs'. To achieve this goal, guidance is needed how to support people with RMDs to remain in paid work or (re)-enter the labour force.

Objectives: To develop Points to Consider (PtC) when supporting people with RMD to participate in healthy and sustainable paid work.

Methods: An international expert group, established by Eular in 2019, convened twice to agree on a protocol for the development of PtC. EULAR's standard

operating procedures were followed. The group (a) defined the target audience, (b) identified areas from which knowledge should be derived to enable formulation of the PtC, (c) agreed on a strategy to collect evidence, (d) established an international taskforce to formulate and agree on the PtC, and (e) proposed an implementation plan.

Results: The target audience are professionals involved in clinical care for patients with RMDs as well as their organisations, persons with RMDs and their organisations, and administrators responsible for healthcare and work policies. Six knowledge areas are identified (Table). Depending on the specific knowledge area, strategies for collecting evidence comprise synthesis of published and grey literature, surveys among various organisations and collection of case studies from employers. Whenever evidence in RMDs is limited, evidence from other chronic diseases will be sought. The international taskforce includes experts from different disciplines in rheumatology (one in other chronic diseases), EU policy makers, and representatives of PARE, HCP, EULAR Public Affairs and EMEUNET. As part of the implementation, close cooperation with national professional and patients societies is planned. Additionally, results will be included in EULAR's activities at the EU policy level.

Table 1. Knowledge areas and strategy to retrieve evidence

	In persons with RMDs:	Sources of evidence
1	Is work relevant for the clinical outcome of disease	LR; Review of management recommendations and Care Standards
2	What are barriers and facilitators to enter or stay in the labor force	SLR
3	What is the effectiveness of interventions to enter or stay in the labor force	SLR; Survey among professional and patient organisations
4	Which social security systems are more effective when entering or staying in the labor force	LR
5	How does disease influence the cycle of work	SLR; Grey literature
6	What (not) to do by employers to let patients enter or stay in the work force	SLR; Survey among large companies; case studies

LR: Literature review; SLR: Systematic literature review

Conclusion: The proposed initiative to develop PtC should ultimately result in improvement of healthy and sustainable labor force participation of people with RMDs.

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Progress in myositis and scleroderma research - I

OP0170

DECLINE IN FORCED VITAL CAPACITY (FVC) IN PATIENTS WITH SYSTEMIC SCLEROSIS-ASSOCIATED INTERSTITIAL LUNG DISEASE (SSC-ILD) WITH AND WITHOUT DYSPNOEA: DATA FROM THE SENSICIS TRIAL

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Background: Some patients with SSC-ILD develop dyspnoea secondary to parenchymal lung disease, while others do not report dyspnoea even when their