countries and 10 orthopaedic surgeons from 10 countries met twice under the leadership of 2 conveners, a senior advisor, a clinical epidemiologist and 3 research fellows. After defining the content and procedures of the task force, 10 research questions were formulated, a comprehensive and systematic literature search was performed, and the results were presented to the entire committee. Subsequently, 10 recommendations were formulated based on evidence from the literature and after discussion and consensus building in the group.

The 10 recommendations will be discussed at the meeting; they included appropriate medical and surgical peri-operative care which requires, especially in the elderly, a multidisciplinary approach including orthogeriatric care. A coordinator should build up an organisation with systematic investigations for future fracture risk in all elderly patients with a recent fracture. High-risk patients should have appropriate non-pharmacological and pharmacological treatment to decrease the risk of subsequent fracture.

REFERENCE:

- [1] EULAR/EFORT recommendations for management of patients older than 50 years with a fragility fracture and prevention of subsequent fractures. *Ann Rheum Dis.* 2017 May;76(5):802–810.

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FRIDAY, 15 JUNE 2018

What's new: Latest advances in treatment in JIA and osteoarthritis

SP0136 LAST ADVANCES IN TREATMENT AND MANAGEMENT OF OSTEOARTHRITIS

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Osteoarthritis is a highly prevalent disease that results in a considerable disease burden for patients that suffer from this disease. Osteoarthritis can affect any joint, but is especially prevalent in the knee, hips and hands. The management for osteoarthritis includes non-pharmacological, pharmacological and surgical options. But options depend on the location of osteoarthritis, since not all treatment options are equally effective for patients with different osteoarthritis phenotypes. Fortunately, the number of high-quality clinical trials has increased in the last years and have increased our insight in potential effective treatments for osteoarthritis. Non-pharmacological options include information and education, exercise possibly in combination with weight reduction in overweight patients with knee osteoarthritis or assistive technology in patients with hand osteoarthritis. Regarding effective pain alleviating medication research, including systematic reviews, network analyses and randomised clinical trials, has increased our insight in the clinical efficacy of different medications. This has led to the discussion about the role of acetaminophen in osteoarthritis. New pain alleviating medication has been developed and is currently investigated. Furthermore, currently used medication is investigated for alternative ways of application. The ultimate requirement to have a disease modifying drug available is not yet met, but studies have been undertaken and are ongoing to investigate disease modifying potential.

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Assessment and prevention of RMDs, what have we learned?

SP0137 PREVENTION OF RMDs – WHAT HAVE WE LEARNED?

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Rheumatic and Musculoskeletal Diseases (RMDs) cause the greatest burden of disability in Europe and is increasing. The WHO Europe Action Plan for the Prevention and Control of Non-communicable Diseases recently recognised this burden and recommends action to promote prevention and improve health in the

general population and those with musculoskeletal health. Targeted screening and prevention in individuals at high-risk of developing RMDs will only be successful if there is a good understanding of the underlying mechanisms of the disease and of possible genetic and environmental risk factors associated with the risk of developing RMDs. The main focus of this presentation is on the evidence of the association between modifiable lifestyle factors and the risk of developing RMDs and the effectiveness of drugs administered during the preclinical phase of RMDs.

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SP0138 WHY NOT ALL EFFECTIVE INTERVENTIONS ARE WORTHWHILE

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Economic decisions in the health sector should be made to reach both efficiency and improvement of health in the most equitable way in the population. Comparative assessment of innovation with usual or current standard practice allows measuring the incremental benefit per individual. The comparison should bear both on effectiveness, ie health effect, and on costs of alternatives, considering appropriate stakeholders and payers. Moreover, according to diseases and treatment target, the time horizon should be relevant to its expected effect, from a few weeks for painkillers to a lifetime for disease modifying drugs in inflammatory arthritis, joint prosthesis in osteoarthritis, or prevention of osteoporosis.

Various scenarios can result from an economic analysis, with four possibilities for a new treatment or health care technology: more efficient at lower cost (optimal), less efficient at higher cost (worse issue), less efficient at lower cost (needing a decision to lose some effectiveness), or more efficient at higher cost – ie cost-effective – (needing to identify what the society is ready to pay off). This is done by calculating an incremental cost-effectiveness ratio, illustrating a marginal benefit per individual, at best using data from clinical trials. Therefore, not all effective interventions can be candidate for diffusion.

Because there is a need to make decisions before larger diffusion of the innovation, a set of methods are also available to anticipate its potential benefit, using a modelling approach. Sensitivity analyses are also conducted in varying conditions of application in reasonable range, using deterministic and stochastic methods. More recently, another perspective has been developed, ie the calculation of the net budgetary impact. This approach allows an extension of the costs to the targeted people in the whole population at a country level. It should take all indirect costs into account. Using these approaches, it is possible to observe that sometimes promising health technology sometimes need to be abandoned, given the too high cost to society for low additional benefit to individuals.

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FRIDAY, 15 JUNE 2018

High-end imaging: looking for the invisible

SP0139 THE ROLE OF PHAGOCYTES AT THE INFLAMMATORY SITE

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Inflammation is a highly conserved, multicellular response to infection or injury ensuring host defense and tissue integrity. Immune cell activation, however, can cause substantial collateral damage, often further amplifying the inflammatory response and significantly contributing to disease pathology (e.g. influenza, myocardial infarction). Hence, mechanisms are required not only to promote and resolve inflammation, but also to regulate the primary events that initiate this process in order to avoid unwanted and potentially harmful immune responses.

Using state-of-the-art intravital and static multi-parameter imaging techniques in mice, our lab seeks to understand the complex interactions and functions of different immune cells types in the execution and regulation of the inflammatory responses to sterile damages in peripheral tissues. With primary focus on the innate immune system, we're particularly interested in the dynamic interplay of embryonically-derived tissue macrophages and recruited neutrophils, which can prevent unwanted immune cell activation and thereby fine-tune the threshold for the onset of damaging inflammation.

This presentation will provide novel insights into the multi-layered regulation of the very initial steps in an inflammatory response to tissue damage, and will further discuss the differential roles of different populations of phagocytes at sites of inflammation.

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SP0140 IMAGING THE ARTHRITIC JOINT

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Advanced imaging approaches such as multiphoton laser scanning microscopy (MPLSM) enable the real-time visualisation of cellular behaviour throughout the development of immune responses *in vivo*. These techniques have brought new insights into the spatial and temporal organisation of the immune system, for example the T cell/Dendritic cell interactions in the lymph node during the decision to induce immunological priming versus immunological tolerance. We believe that understanding cellular interactions in the joint will similarly transform our understanding of the importance of time and tissue specific regulation of the immune system in homeostasis and in diseases such as Rheumatoid Arthritis. Furthermore, using cell fate mapping, we have integrated imaging data in different cellular locations with transcriptional analysis to reveal the underlying molecular basis of these interactions. We propose that the key T cell/DC interactions controlling the development of immune responses and their molecular basis are influenced by the distinct anatomical and temporal context in which they take place, providing targets for therapeutic intervention as well as indicating biomarkers to report immune function.

Abstract SP0140 – Figure 1

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SP0141 IMPROVING THE STUDY OF BONE DISEASES BY CORRELATIVE ELECTRON-, ION- AND X-RAY MICROSCOPY INCLUDING THEIR ANALYTICAL TECHNIQUES

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In the last decades a lot of knowledge was gathered on the structure and composition of bone. Cutting-edge correlative high-resolution microscopy and spectroscopy permits reaching the next level of understanding: Correlative workflows starting from X-ray microscopy volume analysis with voxel sizes of <1 μm, over large scale scanning electron data acquisition, to dual beam microscope analysis (focused electron- and ion beam) permit the scale bridging investigation of bone architectures and thus merging the “big picture” and the underlying ultrastructure with statistical significance. In combination with additional analytical add-ons, physical properties such as optical, mechanical, compositional, structural etc. deliver a highly detailed correlative dataset of bone.

The present paper utilises the comprehensive data acquisition to study bone degradation as it occurs in diseases such as osteoporosis and inflammatory osteoarthritis in mouse models.

Abstract SP0141 – Figure 1

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SATURDAY, 16 JUNE 2018

WIN and HOT Lancet session

SP0142 WHAT CAN NEW INSIGHTS IN THE PATHOGENESIS OF PSORIATIC ARTHRITIS TELL US?

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Psoriatic arthritis is a chronic immune-mediated inflammatory arthropathy, of unknown cause that presents with low grade inflammation of the skin, joints and/or entheses including the axial skeleton. Psoriatic arthritis is associated with increased mortality from cardiovascular disease. Diagnosis is primarily according to clinical phenotype due to the diverse clinical features. Increased understanding of the pathogenesis has led to specific new therapeutic agents and treatment strategies that prevent disease progression and improve quality of life, however 40% or more subjects show partial response or fail to respond. Despite this several unmet needs remain. There are no validated biomarkers for diagnosis, prediction of therapeutic response or remission, therefore it remains difficult to accurately assess disease activity, predict which subjects will respond to a specific therapy, and identify those in remission. This review will address specific recent advances in translational research that inform the pathogenesis of psoriatic arthritis.

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SATURDAY, 16 JUNE 2018

The GI tract in systemic sclerosis – is there light at both ends?

SP0143 ARMFUL HIDDEN TELANGIECTASIA

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Patients with systemic sclerosis (SSc) develop a broad spectrum of vascular manifestations including the almost universal Raynaud's phenomenon, commonly digital ulceration and more rarely critical digital ischaemia. In parallel, within this very heterogeneous disease, some patients will develop vascular related organ damages leading to heart or kidney failure. In addition, SSc patients commonly exhibit telangiectasia that are visible macular, dilated superficial blood vessels. They can develop near the surface of the skin or the mucous membranes. Cutaneous telangiectasia are now included in the classification criteria and may be a marker of more aggressive vascular phenotype. Furthermore, telangiectasia can occur in the gut and promote the development of more structured damages like vascular ectasias and sometimes the very specific gastric antral vascular ectasia. All these vascular lesions induce severe and recurrent chronic iron-deficiency anaemia that can require specific local treatments to stop the bleeding. They also occur in subsets of SSc patients at risk of other SSc complications that will be highlighted in the clinical cases to be presented.

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