cleaning years and incidences of asthma were estimated using Poisson regression analysis. The analyses were repeated in an inception cohort among workers aged 16–20 years at start of follow-up (person years: cleaners = 153,549; references = 423,506).

Results The risk of asthma was not increased for recent cleaning compared to references (adjusted incidence rate ratio [aIRR]=1.02 [95% confidence interval (CI) 0.99–1.04]). Similar results were seen for recent cleaning in the inception cohort. Cumulated cleaning years (up to 10 years) showed decreased risk of asthma (aIRR = 0.74 [95% CI 0.63–0.88] for 10 compared to 1 year of cleaning). However, in the inception cohort (up to 6 years) cumulated cleaning years were associated with increased asthma risk (aIRR=2.53 [95% CI: 1.38–4.64] for 6 compared to 1 cleaning year).

Conclusion In this study, asthma risk increased with cumulated years of cleaning in the inception cohort. This indicates a strong healthy worker selection and suggests that long-term professional cleaning may be associated with increased risk of asthma. However, in the full population we could not confirm that recent work within cleaning was associated with increased risk of asthma; furthermore, cumulated years of cleaning was inversed associated with asthma.

S-145 USE OF MECHANISTIC EVIDENCE FROM OCCUPATIONAL STUDIES IN CANCER HAZARD IDENTIFICATION: THE EXPERIENCE OF THE IARC MONOGRAPHS PROGRAMME

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Over the past 50 years, the Monographs Programme of the International Agency for Research on Cancer (IARC) has evaluated the potential carcinogenic hazard of more than 1000 agents. Through 129 volumes, 121 agents have been classified as 'carcinogenic' (Group 1), 89 as 'probably carcinogenic' (Group 2A), 318 as 'possibly carcinogenic' (Group 2B), and 499 as 'not classifiable as to carcinogenicity' (Group 3). Many Group 1 agents derived their 'sufficient evidence of cancer in humans' from studies of exposed workers. Since 1991, it has been possible to classify an agent in Group 1 based on strong mechanistic evidence in exposed humans and sufficient evidence from cancer bioassays when human cancer evidence was less-than-sufficient. In the recently revised Preamble for the IARC Monographs, mechanistic evidence has gained increased prominence as an individual evidence stream, reflecting advances in mechanistic toxicology and molecular epidemiology. The Preamble revision introduces new possibilities for carcinogen identification from robust mechanistic studies in exposed humans. Specifically, strong evidence that an agent exhibits 'key characteristics' (KCs) of carcinogens in exposed humans can lead explicitly to a Group 2A evaluation when evidence of cancer in humans is limited. Further, classification in Group 2B can be based on strong evidence of KCs in exposed humans alone. Thus, especially for agents for which cancer studies in experimental systems are impracticable (e.g., work as a firefighter), mechanistic studies in exposed humans can increasingly play a crucial role in cancer hazard identification. We will address critical aspects of study design, exposure assessment, and KC-related endpoints anticipated to be influential in future Monographs evaluations of mechanistic studies. We will draw examples from mechanistic studies in workers that contributed substantively to previous Monographs evaluations, and from ongoing occupational studies of agents accorded high priority for future evaluation by the IARC Monographs (e.g., carbon nanotubes).

S-153 NIGHT SHIFT WORK INTERVENTIONS – WHAT DO WE NEED TO KNOW TO MAKE A DIFFERENCE?

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In a modern society, night shift work is inevitable in many sectors including healthcare, industry and transport, and it is important to reduce the potential harm by preventing negative effects for health and safety from night shift work.

This presentation is part of the symposium 'Night shift work research: what we need to know to make a difference?'. The aim of the symposium is to present evidence on night work and chronic disease risk and to identify and discuss how to move forward in etiological and prevention research to provide conclusive evidence for action.

Night shift work interventions can be defined as change strategies with the purpose to reduce health and safety risks associated with night shift work. They may be directed towards the organization or towards the individual and may address different possible mechanisms linking night shift work to health and safety risks.

An example of an intervention directed towards the organization is changes in scheduling of night shift work e.g. changes in number of consecutive night shifts; duration of shift intervals; or shift duration, which are all known to be associated with possible mechanisms linking night shift work to disease and accidents. Examples of interventions directed towards the individual are light interventions, which are related to experience of fatigue and diurnal disruption, and sleep hygiene interventions aimed at reducing the negative impact of night shift work on sleep duration and quality.

This presentation contributes to the following panel discussion on what do we need to know in order to implement such prevention measures by presenting relevant examples of possible interventions. Particular focus will be on what is known about success and barriers for implementation of interventions based on our own and others research.

S-176 SOCCER 2.0 AND SOCCER IN THE FIELD: MOVING FROM CODING OCCUPATION AFTER DATA COLLECTION TO CODING IN REAL TIME BY STUDY SUBJECTS

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Objective Free-text job descriptions from lifetime occupational history questionnaires are the starting point for nearly all occupational exposure assessment activities in epidemiologic studies. This information is used to code job descriptions into standardized occupation classification (SOC) systems. We describe updates to SOCcer, an algorithm that incorporates