



# Assessment of exposure to smoke toxicants in users of the glo™ tobacco heating product



The use of novel tobacco and nicotine products with reduced yields of toxicants compared to cigarettes, such as tobacco-heating products, low toxicant oral smokeless products (eg. snus) and in particular e-cigarettes, hold great potential for reducing the harms associated with tobacco use. Currently in the UK, several public health agencies have advocated a potential role for novel nicotine products in tobacco harm reduction, as they deliver nicotine in a cleaner form than cigarette smoke. Here, we present preliminary data from a study conducted in Japan in which we examined urinary biomarkers of exposure to cigarette smoke toxicants in volunteer participants who switched to using the glo™ THP for 5 days.

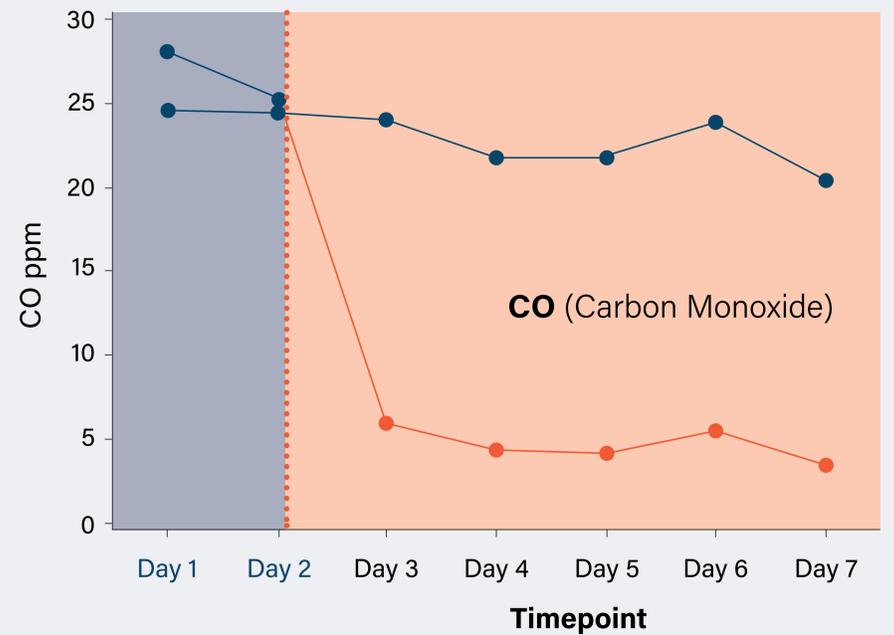
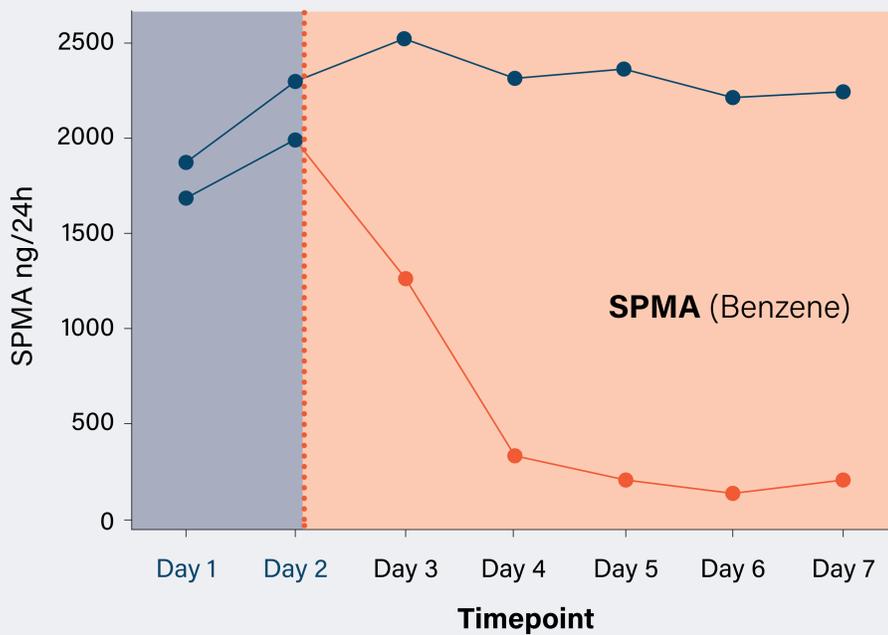
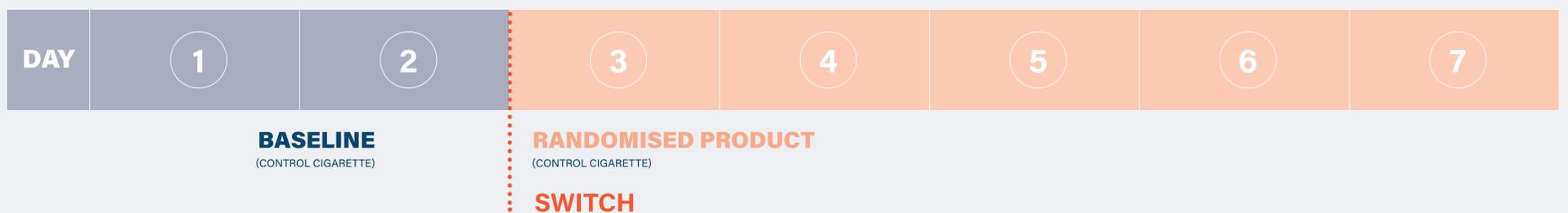
## EXPERIMENTAL STUDY DESIGN

This study was IRB-approved, ran according to the principles of ICH-GCP, and was registered on the ISRCTN (ISRCTN14301360) and UMIN (UMIN000024988) clinical study registries. Clinical confinement was conducted at two sites in Fukuoka, Japan. Volunteer participants were current

smokers and recruited from the general population. In the clinic, subjects smoked cigarettes or used glo™ according to the according to the timeline shown below, in rooms specifically set up for smoking. Each group contained 30 participants. 24h urine samples were collected on each day for biomarker of exposure analysis.

Plots below show levels of biomarkers for benzene in 24h urine samples (left) and carbon monoxide in exhaled breath (right) from continuing smokers (blue) and participants who switched to using glo™ (orange). Data are mean values

7 days clinical confinement



Preliminary data show that the levels of some biomarkers of exposure are reduced in smokers who switch to using the glo™ THP for 5 days in a clinical confinement setting. Further analysis will determine changes in a number of other biomarkers, and future studies will examine whether this exposure reduction is maintained over longer, ambulatory periods and also whether this is associated with changes in biomarkers of potential harm.

