

# Prolonged television watchers have higher risk of fatal pulmonary embolism

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Prolonged television watchers have a higher risk of fatal pulmonary embolism, a condition associated with long haul flights, reveals research presented at ESC Congress today by Mr Toru Shirakawa, public health research fellow in the Department of Social Medicine at Osaka University in Japan. The 18 year study in more than 86 000 people found that watching an average of five or more hours of television per day was associated with twice the risk of fatal pulmonary embolism as watching less than two and a half hours daily.

"The association between prolonged sitting and [pulmonary embolism](#) was first reported among air raid shelter users in London during World War II," said Mr Shirakawa. "Nowadays, a long haul flight in an economy class seat is a well known cause of pulmonary embolism that is called 'economy class syndrome'."

He continued: "Pulmonary embolism is a serious, sometimes fatal, lung-related vascular disease characterised by sudden onset of symptoms such as chest pain or difficulty breathing. The disease is caused by obstruction of the [pulmonary arteries](#) by blood clots, generally formed in the leg vessels. Risk factors include cancer, prolonged bed rest or sitting, and oral contraceptive use."

The current study is the first prospective assessment of the association between prolonged television watching and fatal pulmonary embolism. The study included 86 024 participants (36 007 men and 50 017 women) aged 40 to 79 years who completed a self administered questionnaire

including information about average television watching time per day as part of the JACC Study,<sup>2</sup> which started between 1988 and 1990. Participants were followed up for a median of 18.4 years until 2009. Mortality from pulmonary embolism was identified from death certificates.

Length of television watching was divided into three groups: less than 2.5 [hours](#), 2.5 to 4.9 hours and 5 or more hours per day. Risk of death from pulmonary embolism according to length of television watching was calculated after adjusting for age at baseline, gender, history of hypertension, history of diabetes, smoking status, drinking status, body mass index, walking and sports habits and menopausal status.

During the follow up period there were 59 deaths from pulmonary embolism. The researchers found that people whose average television viewing time was more than five hours per day had twice the risk of fatal pulmonary embolism as those who watched an average of less than two and a half hours daily (hazard ratio [HR]= 2.38) (Figure 1).

The association was more prominent in people under 60 years of age in whom watching television more than five hours per day was associated with a six-fold risk of fatal pulmonary embolism compared to watching less than two and a half hours (HR=6.49). In this age group, watching 2.5 to 4.9 hours tripled risk compared to less than 2.5 hours (HR=3.14).

"We showed that prolonged television viewing may be a risky behaviour for death from pulmonary embolism," said Mr Shirakawa. "Leg immobility during [television viewing](#) may in part explain the finding. To prevent the occurrence of pulmonary embolism, we recommend the same preventive behaviour used against economy class syndrome. That is, take a break, stand up, and walk around during the [television](#) viewing. Drinking water for preventing dehydration is also important."

He continued: "In this era of information technology, use of other visual based media devices such as personal computers or smartphones is popular. Prolonged computer gaming has been associated with death from pulmonary embolism but to our knowledge a relationship with prolonged smartphone use has not yet been reported."

Mr Shirakawa concluded: "Public awareness of the risk of pulmonary embolism from lengthy leg immobility is essential. More research is needed to assess the risks of prolonged use of new technologies on pulmonary embolism morbidity and mortality."

**More information:** Mr Shirakawa will present the abstract 'Watching television and mortality from pulmonary embolism among middle-aged Japanese men and women: the JACC study'

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