

# Contact allergies may trigger immune system defences to ward off cancer

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Contact allergies (reactions caused by direct contact with substances like common metals and chemicals) may help prime the immune system to ward off certain types of cancer, suggests research published today in the online only title *BMJ Open*.

Previous research has indicated that people with type 1 allergies, which include pollen and house [dust mites](#), may be more or less likely to develop cancer. But it is not known if those with contact allergies to common metals such as nickel, and chemicals, might also be afforded protection against the disease.

The authors base their findings on just under 17,000 Danish adults all of whom were patch tested for positivity to the most common contact [allergens](#) between 1984 and 2008 at a specialist hospital for skin problems.

The [long term health](#) of all the participants was subsequently monitored and cross checked against entries on disease registers, including a national cancer registry.

In all, just over one in three (35%; 6,065) people had a positive reaction to at least one [allergen](#) on at least one occasion.

The prevalence of reactivity was significantly higher among women, just over 41% of whom "reacted" compared with around one in four (26%) of the men.

Just under one in five people (19%) of all those patch tested had developed a growth, including non-cancerous tumours. And just under 38% of this group had tested positive for contact allergy.

Only cancers affecting at least 40 people were included, and when the data were analysed a strong association emerged between a diagnosis of contact allergy and an entry in the cancer register. And there were significant differences in the prevalence of four cancers between those with and without contact allergies.

There were significantly lower rates of breast and non-melanoma [skin cancer](#) in both sexes among those with contact allergies, and lower rates of [brain cancer](#) among women.

These findings back up the "immunosurveillance hypothesis," which holds that people with allergies are less likely to develop cancer because their immune systems are super responsive, say the authors.

The analysis also picked up higher rates of bladder cancer found among those with contact allergies, which might be the result of higher levels of chemical metabolites accumulated in the blood, they suggest.

The authors caution that it is too early to draw definitive conclusions about cause and effect. Further analysis, taking account of influential factors, such as smoking and social class, is needed, they suggest. "However if these relations are aetiological, there are implications for understanding how contact allergy can affect [cancer](#) development, and vice versa," they conclude.

Provided by British Medical Journal

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