

# Alcohol and Cancer Risks

A Guide for Health Professionals



Scottish Health Action on Alcohol Problems  
[www.shaap.org.uk](http://www.shaap.org.uk)

## Introduction

### Alcohol and Cancer Risks: A Guide for Health Professionals

This guide has been produced to summarise for Health Professionals the links between alcohol consumption and cancers so that they can use opportunities in their work to intervene to reduce the risks. It was produced following an expert workshop which was convened by SHAAP.

Public and professional awareness of the links between alcohol and cancer is low in Scotland. Elsewhere in Europe and in North America and Australia professional and public awareness of cancer risks from alcohol is higher.

### Multiple routes to cancer risk

Strong evidence has emerged of plausible mechanisms whereby alcohol may cause cancers of oral cavity, pharynx, larynx, oesophagus and liver. Ethanol (i.e. alcohol) metabolism generates acetaldehyde. Acetaldehyde itself is a cancer-causing substance in animal experiments and reacts with DNA to form cancer-promoting compounds. In addition, highly reactive oxygen-containing molecules that are generated during certain pathways of alcohol metabolism can damage DNA, thus also inducing tumour development. Together with other factors related to chronic alcohol consumption (e.g. smoking), these metabolism-related factors may increase tumour risk in chronic heavy drinkers<sup>1,2,3</sup>. An increase in sex hormone concentrations (i.e. oestrogen) is seen as the most important explanation of a biological mechanism of the alcohol and breast cancer association and is supported by randomized controlled alcohol trials<sup>4,5,6</sup>.

### The Role of Health Professionals

Some clinicians can feel uncomfortable about raising the issue of alcohol consumption with patients. However, evidence from many sources suggests that patients are accepting of tactful or empathetic inquiry about aspects of their lifestyle which may have an impact on their health. Health professionals are well placed to raise the level of awareness with their patients and clients as part of a comprehensive review of health and lifestyle.

Most patient and clients welcome guidance and support to help them find the motivation to improve their health and wellbeing. Reducing alcohol consumption is often only one of a number of changes that could be made to improve quality of life but it is one that is achievable.

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## Key Facts

### Many cancers are preventable

- One third of cancers are linked to a number of lifestyle risk factors – smoking, alcohol, diet, overweight/obesity, and physical inactivity<sup>7</sup>.
- Half of the Scottish population have three or more of these lifestyle risk factors<sup>8</sup>.
- Forty-six per cent of men and 38% of women drink alcohol at levels higher than current guidelines for sensible alcohol consumption<sup>9</sup>.
- Drinking alcohol increases the risk of cancer of the breast, head and neck, the oesophagus, bowel and liver<sup>10</sup>.
- Each year, approximately 6% of new cancer cases are estimated to be attributable to alcohol consumption<sup>11</sup>.
- Drinking alcohol, even within the limits of current advice on sensible drinking, may increase the risks of alcohol-attributable oral and pharyngeal as well as breast cancer.
- Reducing alcohol consumption to levels within the current guidance for sensible drinking will reduce the risk of developing an alcohol-attributable cancer.

### A change in lifestyle can reduce the risk of cancer

#### Health professionals can help reduce alcohol-related cancer risks by:

- Informing patients and clients about the risks of cancer from drinking alcohol
- Providing guidance and support to help patients and clients reduce the amount of alcohol they drink

## Opportunities for interventions

To improve health and wellbeing, people are already being asked to be more alcohol aware and to drink less. Within current public health improvement programmes that seek to change lifestyle behaviours associated with health harm, there are opportunities to raise the profile of messages focused on alcohol and cancer risk.

### The current guidelines for sensible alcohol consumption are

- Men:** No more than 3 to 4 units a day and no more than 21 units in one week
- Women:** No more than 2 to 3 units a day and no more than 14 units a week

It is strongly advised to have two days of abstinence to allow the body time to recover, particularly for those who drink heavily. A unit is equal to 8g of pure alcohol.

### Alcohol Brief Interventions

There are now a number of evidence-based brief interventions for a variety of treatment settings that can be used to modify a range of lifestyle habits. An Alcohol Brief Intervention (ABI) is focused on helping clients change their attitudes and behaviour with respect to drinking alcohol through motivational interviewing and counselling. The approach is based upon:

- assessment of drinking behaviour and feedback
- negotiation and agreement of goal for reducing alcohol use
- assisting clients with behaviour modification participation
- reinforcement with self-help materials
- follow up telephone support or further visits

Many health contacts including cancer screening services and dentistry provide the opportunity to screen a patient for alcohol problems and, if appropriate, deliver an ABI.

### For further information and support in delivery of ABIs

<http://www.healthscotland.com/topics/health/alcohol/alcohol-brief-interventions-communications-and-guidance.aspx>

<http://www.healthscotland.com/topics/health/alcohol/local-delivery.aspx>

## The Scottish Context (excluding non-melanoma skin cancer cases)

Approximately 14,000 males and 15,400 females were diagnosed with cancer in 2010. The number of cancers diagnosed in Scotland has increased over the last 10 years from 26,169 cases in 2000 to 29,449 in 2010<sup>12</sup>.

Each year about 15,000 people die from cancer<sup>13</sup>.

Over half of all cancers in men are within the prostate, lung and bowel and over half of all cancer cases in women are within the breast, lung and bowel<sup>12</sup>.

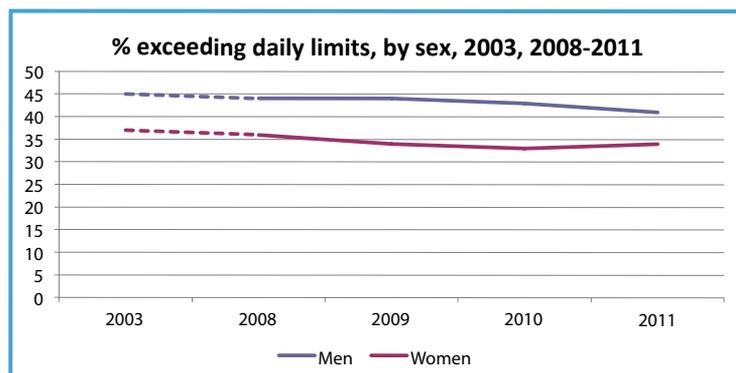
Approximately one in twenty of cancers occur within the tissues of the head and neck (oral cavity, pharynx, larynx and oesophagus). The incidence of cancer within these tissues is higher in men than women and higher in people from deprived or disadvantaged social groups<sup>12, 14</sup>.

Breast cancer is the most common cancer in women and represents over one in four of all cases of cancer in women. The incidence of breast cancer is highest amongst women from the least disadvantaged groups<sup>12, 14</sup>.

## Patterns of alcohol consumption: Age and gender<sup>9</sup>

Men drink more alcohol than women. In 2011, 46% of men and 38% of women aged 16 years and over drank outwith the recommended sensible drinking guidelines (both daily and weekly).

The proportion of men exceeding the recommended daily limits has declined from 45% in 2003 to 41% in 2011, and in women from 37% in 2003 to 34% in 2011.



For both men and women the amount of alcohol they consume declines with age with drinking beyond the recommended daily levels becoming less frequent as people get older. Patterns of alcohol consumption tend to change from drinking quantities that exceed sensible drinking limits on one or two occasions per week to drinking less per occasion but more frequently during the week.

## Patterns of alcohol consumption and deprivation<sup>15</sup>

Adults in more socio-economically disadvantaged groups tended to be more likely to be non-drinkers or ex-drinkers than their more advantaged counterparts and were less likely to drink outwith the recommended limits.

For men, the prevalence of drinking outwith the guidelines was highest among those living in the least deprived areas (54%) and lowest in the most deprived areas (45%). Among women, 44% of those in the least deprived quintile drank outwith the guidelines compared with 34% in the two most deprived quintiles.

## Alcohol consumption and cancer risk

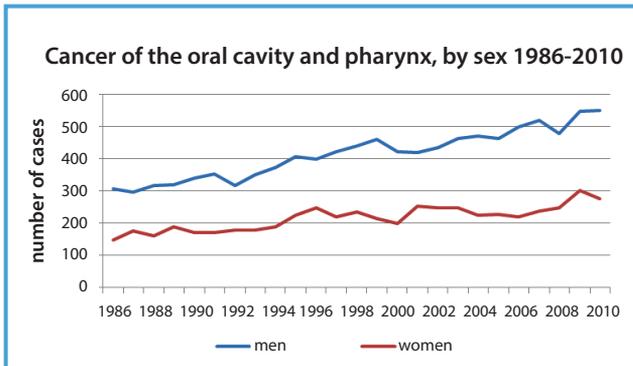
Drinking alcohol, *even within the limits of current advice on sensible drinking*, may increase the risks of alcohol-attributable oral and pharyngeal cancers and cancer of the female breast.

Drinking alcohol at levels higher than the guidelines for sensible alcohol consumption can increase the risk of cancer within the

- **larynx**
- **oesophagus** (squamous cell carcinoma only)
- **liver**
- **colon**
- **rectum**

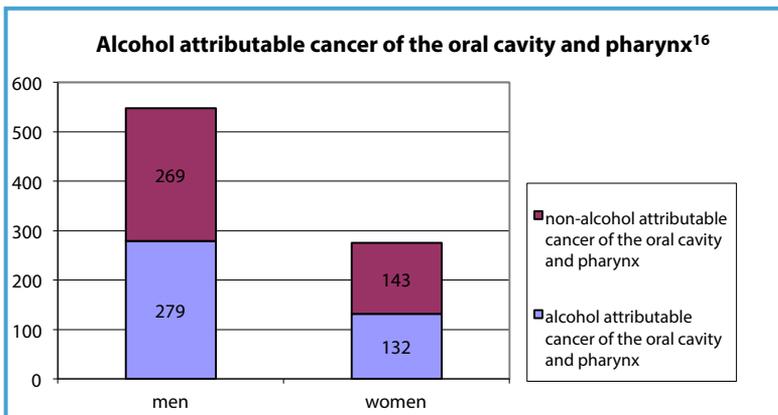
In 2010, alcohol was an attributable risk factor in approximately 7%, or 1948 new cases, of cancer in Scotland. The number of cancers in which alcohol was estimated to be an attributable risk factor is greater in women than men.

## Cancer of the oral cavity and pharynx



In 2010, there were 543 new cases of cancer of the lip, oral cavity and pharynx in men and 275 in women<sup>12</sup>, a 79% and 86% increase, respectively, since 1986.

The incidence of these cancers in men is almost twice that observed in women.

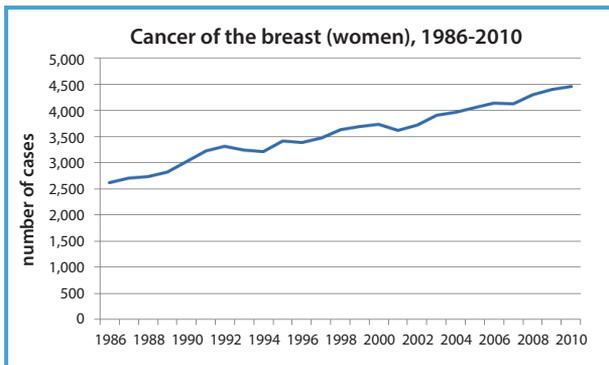


The incidence of these cancers in men is almost twice that observed in women.

For both men and women approximately half of cancers of the oral cavity and pharynx have been estimated to be attributable to alcohol consumption.

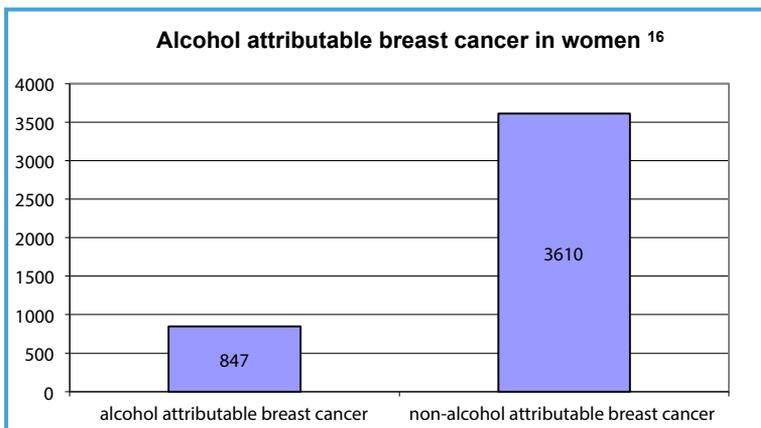
The incidence of cancers of the oral cavity and pharynx increase with increasing levels of deprivation<sup>14</sup>.

## Cancer of the female breast



Breast cancer is the most common cancer in women.

In 2010, there were approximately 4457 new cases of breast cancer<sup>12</sup>, a 70% increase since 1986.

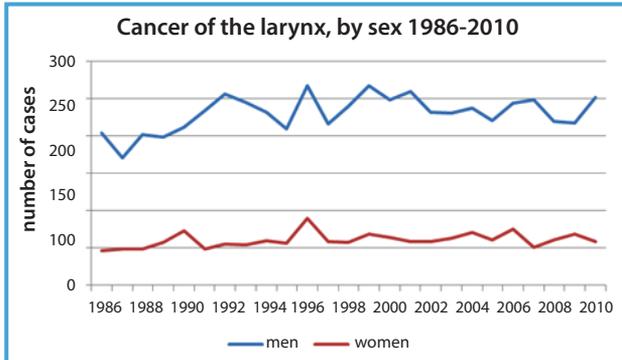


It is estimated that at least 700 cases of breast cancer each year may be attributed to drinking alcohol <sup>11</sup>.

This is greater than the total number of other cancers in women that are attributable to alcohol consumption.

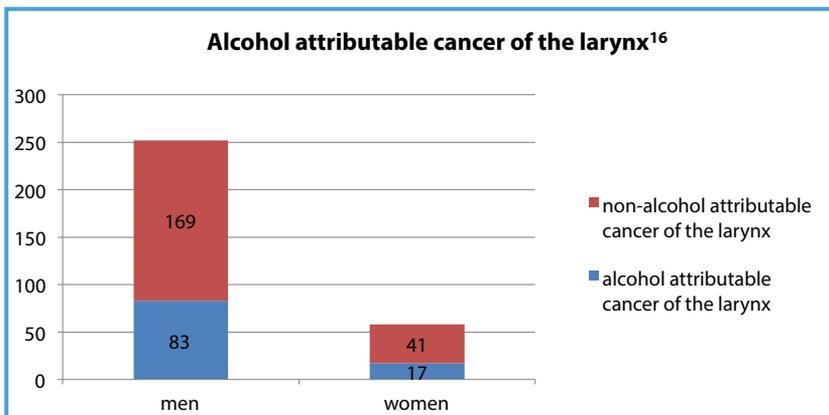
The incidence of cancers of the oral cavity and pharynx increase with increasing levels of deprivation<sup>14</sup>.

## Cancer of the larynx



In 2010, there were approximately 250 new cases of cancer of the larynx in men and 60 in women<sup>6</sup>.

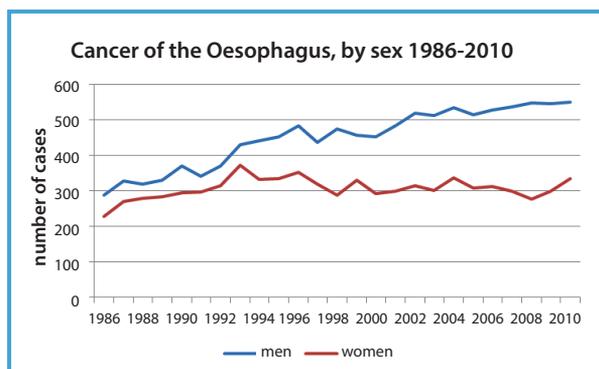
In men, the incidence of this cancer is almost four times that observed in women.



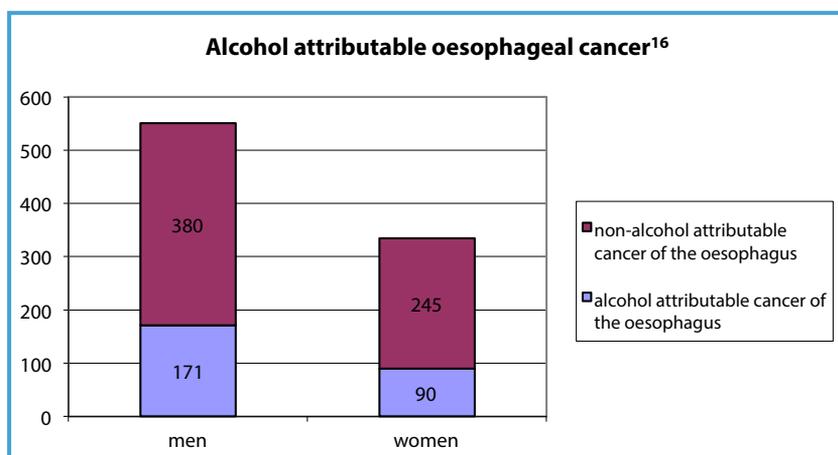
Approximately one in three of new laryngeal cancer cases in men and women are estimated to be attributable to alcohol consumption<sup>11</sup>.

The incidence of laryngeal cancer is highest within disadvantaged communities<sup>14</sup>. Its incidence within disadvantaged communities is also associated with the additional effects of other lifestyle factors such as smoking. In contrast to areas of social and economic affluence, the incidence of tobacco use within the most deprived communities has not shown a significant decrease over the past 30 years.

## Cancer of the oesophagus



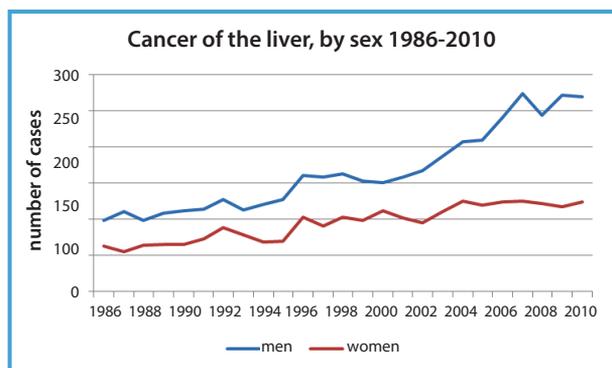
In 2010, there were 550 cases of cancer of the oesophagus in men and 335 in women<sup>12</sup>. Since 1986, the number of new cases of oesophageal cancer has nearly doubled in men and increased by approximately 50% in women. The incidence of oesophageal cancer in men is higher than that observed in women.



More than a third of oesophageal squamous cell carcinomas are estimated to be attributable to alcohol consumption and the proportion of cancers attributable to alcohol is higher in men than women<sup>11</sup>.

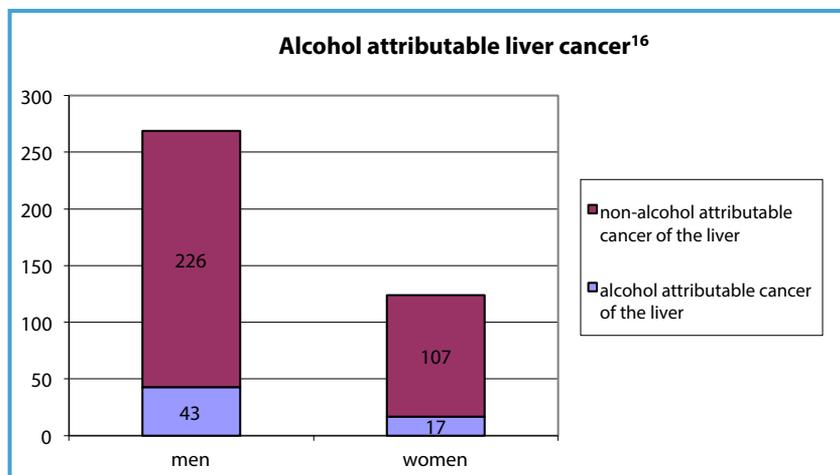
The incidence of cancer of the oesophagus is also higher in areas of social and economic deprivation<sup>14</sup>.

## Cancer of the liver



In 2010, there were approximately 270 new cases of cancer of the liver in men and 125 in women<sup>12</sup>, an approximate three-fold and two-fold increase, respectively, since 1986.

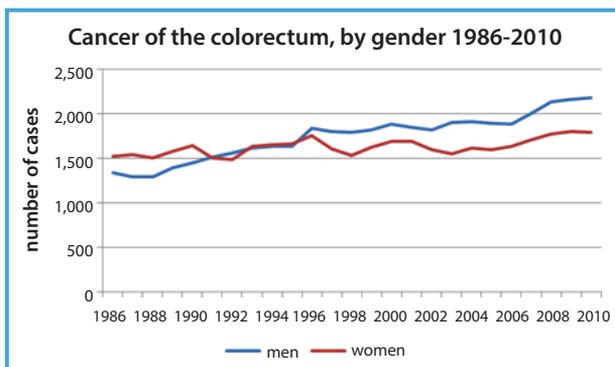
The incidence of liver cancer is higher in men than women.



Over one in ten of new liver cancer cases are estimated to be attributable to alcohol consumption<sup>11</sup>.

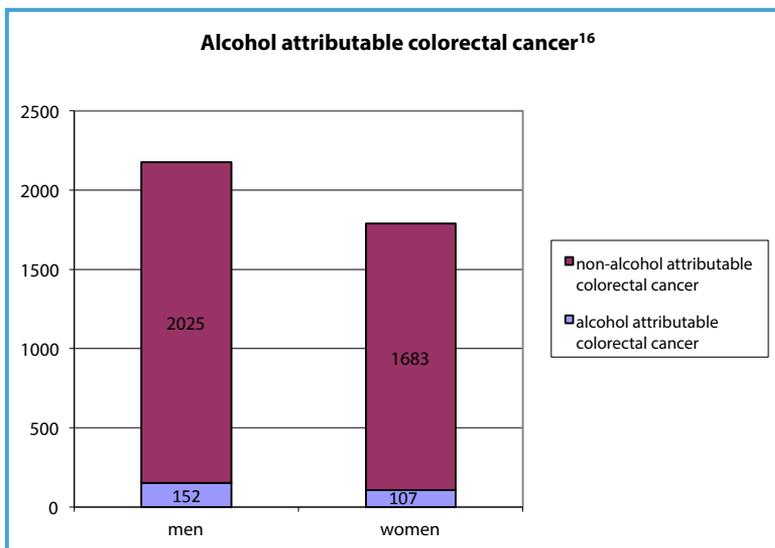
The incidence of liver cancer is higher in areas of social and economic deprivation<sup>14</sup>.

## Cancers of the colon and rectum



In 2010, there were approximately 2200 new cases of colorectal cancer in men and 1800 in women<sup>12</sup>, a 63% and 17% increase, respectively, since 1986.

The incidence of colorectal cancer has, over the last decade, become proportionately more common in men than in women.



It has been estimated that about 250 cases per year can be attributed to drinking alcohol and the incidence of alcohol attributable-cancer is higher in men than women<sup>11</sup>.

The incidence of colorectal cancer does not show significant variance between areas of deprivation<sup>14</sup>.

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# SHAAP

## Scottish Health Action on Alcohol Problems

This information booklet is an output from a SHAAP Expert Workshop on *Alcohol and cancer; raising awareness*: that reviewed and discussed the epidemiology of alcohol and cancer and highlighted the need to raise both professional and public awareness of the links between alcohol consumption and cancer.

SHAAP (Scottish Health Action on Alcohol Problems) has been established by the Scottish Medical Royal Colleges and Faculties to raise awareness about alcohol-related harm and to promote solutions based on the best available evidence.

A key function of SHAAP is to provide a coherent and authoritative medical voice on reducing the impact of alcohol on the health and wellbeing of the people of Scotland and to promote measures that can be adopted to reduce this harm.

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