

DR CHRIS JOLLY



Dr Chris Jolly leads Centenary's DNA Repair Laboratory and has more than an academic and scientific interest in his area of research – he has survived cancer himself and knows the trauma cancer patients and their families undergo.

“ *I know, first-hand, how debilitating chemotherapy can be. My personal experience now adds a new perspective to my research aspirations. Having a better understanding of how cells respond to genome damage will provide us with valuable insight into the origins of cancer and produce new tools for better targeting of cancer chemotherapeutics.* ”

WHAT DOES IT ALL MEAN?

Cancer cells arise when damage occurs to our DNA and our body's normal repair process doesn't take place.

Living things are made of millions of tiny self-contained components called cells. Inside of each cell are long and complex molecules called DNA.

- **DNA (Deoxyribonucleic acid)** is a molecule that carries the genetic instructions used in the growth, development, functioning and reproduction of all known living organisms
- **DNA repair pathways** are protein toolkits that detect then repair damaged DNA.
- **Enzymes** are proteins with a catalytic function.
- **DNA Replication Cycle** is the cellular process that allows cells to duplicate their DNA, then divide in an ordered fashion.
- **Genome damage** is chemical or physical damage to the DNA that make up our genome.



THE IMPACT ON OUR NATION

It is estimated that more than 130 Australian lives will be lost to cancer **every day** this year – that is approximately five Australian's each hour.¹

The five leading cancers predicted to contribute to deaths in Australia in 2017¹ are:

MALES:

LUNG	5,179
PROSTATE	3,452
COLORECTAL	2,136
PANCREAS	1,515
UNKNOWN PRIMARY SITE	1,369

FEMALES:

LUNG	3,842
BREAST	3,087
COLORECTAL	1,978
UNKNOWN PRIMARY SITE	1,461
PANCREAS	1,400



The median age for all cancer deaths in 2015 was 75.5, and approximately two thirds of these deaths occurred in people between the ages of 60 and 89.³



There is a higher incidence of cancer deaths among males compared to females between the ages of 50 and 80, whilst the incidences of cancer among females is higher for women 30 to 49 years of age, and those 90 and over.³



The risk of being diagnosed with any cancer by the age of 85 will be 1 in 2 and we are all living longer!¹

Males who had survived to the age of 65 in 2014 could expect to live, on average, another 19.4 years (to 84.4 years) and females an extra 22.2 years (to 87.2).²

1 www.aihw.gov.au Cancer Australia 2017

2 www.aihw.gov.au Australia's Health 2016

3 www.abs.gov.au 3303.03 – Causes of Death, Australia, 2015