New staff working on the study: Nicholas Orr

The newsletter gives us the opportunity to introduce members of the team working on the Generations Study. Nicholas Orr is our latest recruit. He is an expert in the analysis of genetic causes of cancer and will be responsible for much of the laboratory and statistical work needed to use the blood samples that you have contributed to investigate genetics.

Nick grew up in the Northern Irish countryside and studied molecular biology and genetics at Queen’s University, Belfast. In 2005, he moved to Washington DC where he worked at the US National Cancer Institute and learned about cancer genetics. He says, “Living in the USA was a long time ambition of mine. DC is a great city – my wife and I had an amazing time there!”. On seeing the US economy start to move back to the UK to be close to family and friends.”

It is very exciting to be able to join the Generations Study team. A lot of time and effort has clearly gone into the study over the past 5 years, both by the study team and the participants. Everyone involves someone who has been affected by breast cancer and I’m confident that this study will have a positive impact in understanding its causes, and of ways to help prevent future cases of the disease.”

Breakthrough Generations Study

This newsletter, and the questionnaires for the Generations Study, were sent to you in the traditional way, by post. Technology moves on, however, and some of you might now prefer to receive communications from us and complete questionnaires electronically, through our website. We will therefore be trialling online communications with these study members who would like to try it. If you would like to receive future newsletters by email and complete questionnaires online, please go to our website, www.breakthroughgenerations.org.uk and enter your details. If you are not sure if we are able to collaborate in future on some problems are too difficult, and for other problems even though one research group can give some answers, the combined strength of neural groups from different countries can add new. We hope to describe in the newsletter, the ways in which we will be able to collaborate in future on some of the worldwide scientific effort to find the causes of breast cancer.

Order thanks to you again for your contribution to the study. We wish you a good year to come, and look forward to writing to you again in a year’s time.

With best wishes,

The Breakthrough Generations Study Team

Information from Breakthrough Breast Cancer

Breakthrough Breast Cancer, who are funding the Generations Study, are a charity committed to fighting breast cancer through research, campaigning and education. If you would like to receive information about Breakthrough Breast Cancer, please complete the side of this slip and return it to the address below, or visit www.breakthroughbreastcancer.org to find a form online.

Please note that you will be giving your details to Breakthrough Breast Cancer, not to the Generations Study Team.

Send to:
Breakthrough Breast Cancer
FREEDOM CN 0016
London:
WC1
7TR

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The next steps

As each of you reach 2½ years since you joined the study, we have been sending you a brief questionnaire asking about changes of address and any illnesses since you joined. The questionnaire is very short (3 sides of paper) and has now been sent to more than half the study members.

We are very grateful to all of you for sending it back, with a little reminder to those who forget, we have had answers back from 86% of you. Of course, we would like to achieve 100% – the higher the response rate, the more valid the study’s results will be – so if you have not yet returned yours we would be grateful if you could do so.

The next step in the study will be when you reach about five years from joining. At that time, we will be writing to ask if you would complete a questionnaire about changes in your health and your health and lifestyle since you joined the study, and to give a blood sample as before. This is important because, as you may remember, the causes of breast cancer are believed to relate to behaviour and exposures throughout life; we therefore need to continue to gather information from study members about their health and lifestyle at the ages closest to the menopause, and therefore to the time when the cancer started.

We are very grateful to Breast Cancer Research and all the fundraisers and donors for their support, without which the study would be impossible.

The international scientific effort to find the causes of breast cancer, and how the Generations Study can contribute to this

Although the Generations Study is unique in several ways, clearly it is not the only study in the world making contributions to the causes of breast cancer. Many of the problems in discovering cancer causation are too difficult for any one group to solve alone, and we need information from larger numbers of study participants than any one study can include. There are some questions that the Generations Study can answer and other studies cannot, and some that we can answer and they cannot, and both of course, need to collaborate and share information that will be essential to enable progress.

The need for collaboration particularly applies to investigations of risks in particular sub-groups of women, such as when grouped according to their gene, and to investigation of the causes of different sub-types of cancer. For instance, about three-quarters of breast cancers are oestrogen receptor positive, but around a quarter are not (oestrogen receptor negative). Not only does treatment differ between these two types of cancer because the oestrogen receptor positive tumours tend to respond to hormonal treatments such as tamoxifen while the oestrogen receptor negative tumours tend not to, but their causes may be different too.

We have therefore joined the Cohort Consortium run by the United States National Cancer Institute, which brings together cohort studies from around the world to produce “pooling” of information on cancer of, and also joined the International Breast Cancer Association, which pools information on the genetic causes of breast cancer. Collaborative analyses take time, and the Generations cohort is so very young, but we will keep you informed on progress.

If you are interested, you can find more information about the Cohort Consortium at www.epi.grants.cancer.gov/Consortia/cohort.html, which also gives links to descriptions of the cohorts taking part in this research effort, and more about the Breast Cancer Association Consortium at www.acr.ai.com/consortial/Access.

Exercise …and the risk of breast cancer

It has become clear from research in recent years, particularly by Professor Linda Bauld of Los Angeles, a member of the Breakthrough Generations Study Scientific Advisory Panel, that exercise can reduce the risk of breast cancer, and can help reduce the risk of certain other cancers.

The evidence of a reduction in risk is strong for breast cancer occurring after the menopause and less certain for breast cancer occurring before the menopause. Of course, exercise tends to reduce weight, but its beneficial effects seem to go beyond those simply due to weight loss: the fall reasons are unclear, but exercise seems to be good for us. You might feel, however, that if you are to act on this information, you need to know what type of exercise, how much and how often, is needed, what the effect is of exercise at different ages, and whether the value of even small amounts of exercise on your genes – whether it has a greater preventive effect for women with some types of genes than others. The answers to all of these questions aren’t yet clear, and with your help this is one of the issues we are investigating in the Generations Study. Hence in the first questionnaire we sent you there were many questions about your patterns of exercise, and in the questionnaires we will send you when you have been in the study for five years, there will be more – this is a particularly important factor to investigate because it could potentially provide practical measures that many women could take to reduce their cancer risk.

Menarche …and the risk of breast cancer

It has been known for several decades that the risk of breast cancer relates to the age at which a woman has her first period – her age at menarche.

Women with a younger age at menarche have somewhat greater risk, although this is only one of many factors that increase or decrease risk, and is not one to be concerned about. We therefore asked in the study questionnaire about your age at that period, both in order to be able to analyse breast cancer risks in relation to this factor but also to enable us to address the question, ‘what determines the age at which a woman period starts?’ Interestingly, the age at menarche of successive generations of women in the UK has been getting younger for more than 100 years – in the first half of the nineteenth century it generally ranged from ages 14 to 15 years, whereas among those born in the 1970s it is now about 13 years of age. As shown in the diagram opposite, 23% of Generations Study members had a first period at ages under 12, 50% at ages 12 or 13, and 27% at older ages.

Breast cancer risk may also relate to the length of time between the first period and the start of regular cycles – another factor we asked you about in the questionnaire. The diagram opposite shows this: for 46% of study members, the time from first period to regular cycles was less than one year, for 26% it was one year, for 19% it was more than one year, and for 9% regular periods had never started. Over the next few years we will be working to find out why these differences between women occur, and how in detail they relate to breast cancer risk.

If you have not yet returned your questionnaire, or your blood sample

If you have not yet returned your questionnaire or blood sample but would still like to participate in the study, it is not too late. If you have not replied because you have a specific query, please contact us with your question and we will try to help. Telephone 020 772 4460 or write to:
Breakthrough Generations Study Team
FREEPOST M1015
The Institute of Cancer Research
Sutton
SM2 5BR

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Information for Breast Cancer Risk - Reply slip

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Surname
Address
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I would like to receive information about Breast Cancer.

If you already receive information from Breast Cancer, please tick this box. This will help Breakthrough to send you appropriate information about that activity.

I would like to receive information about Breast Cancer Risk.

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