

## Mammograms -The Truth comes to the big screen

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One of the most frequently asked questions we receive from women is, 'What are your views on mammograms and their risks?' The answer to that question was hitherto, 'The jury's out'. Now, given recent research findings, that can no longer be our answer. The truth is that, certainly where screening is concerned, 'They do involve increased cancer risk and they are not wonderfully accurate'.

### The Technique

The female oncology nurse I talked to was only half joking. 'Mammograms were clearly invented by men! Ask any man if he would expose his private parts, put them between two cold metal plates, squeeze them, subject them to ionizing radiation once a year on the vague chance that it might show he had a cancer, and he'd say I was mad. At best!

### The Gold Standard

Firstly, let's clarify the difference between 'screening' and 'diagnostic' mammography.

Screening mammography is performed on healthy women from the age of 40 to 70 and is aimed at identifying anything suspicious, which might then justify further investigation. It is often incorrectly classed by many 'experts' under the heading of 'prevention' when in truth it is, at best, 'earlier detection' over the recommended practice of checking your breasts for lumps by hand.

Diagnostic mammography is used with existing patients or high-risk non-patients who already have existing justification for the test; for example, one or more high-risk factors, clinical symptoms, or a palpable lump. Let us be absolutely clear: In the latter case, where symptoms already exist, there can be little argument about mammography's role as

the current 'gold standard' for evaluating and clarifying pre-existing suspicions.

### Radiation risks

A recent ten year trial involving screening use on pre-menopausal women aged 40-50, reported in the Lancet (Dec 7th 2006) and funded by the Department of Health and Cancer Research UK ended with the comment that, 'The findings had to be balanced against possible negative considerations such as an increased radiation exposure which might increase risk later in life'. Frankly it is very good of these two important bodies to 'come clean' and clarify once and for all that they believe there to be increased risks from mammogram radiation. For a number of years now, critics have claimed there were significant increased risks but repeated denial by Health authorities and certain leading charities created a 'murky area'. Not so, any longer.

Let us establish one thing right up front: Mammograms are not X-rays, nor are they the same as having an X-ray, two myths that are regularly included in everyday commentary.

Mammography involves a different type of radiation to that used in ordinary x-rays: A low energy form of ionizing radiation. This can pass more readily through tissues but is up to five times more harmful than standard x-rays. The alpha particles of mammograms have both large mass and charge, quite unlike ordinary x-rays, which have neither. (US Journal of Radiation Research 2005). Furthermore, the level of exposure when both breasts are photographed - about 1 rad - is almost 1000 times higher than one chest x-ray, and lucent, pre-menopausal breast tissue has been shown to be especially sensitive to radiation. Each rad of radiation exposure has been shown to increase breast cancer risk by a little over 1 per cent. 10 years of annual screening will therefore result in a 10 to 20 per cent

increased breast cancer risk, and these risks obviously increase the younger the subject starts.

It has also now been proven that double strand breaks or even more extensive damage to the DNA can arise from the ionizations from just a single alpha particle as it tracks through a cell, whereas multiple x-ray photons would normally be required to cause similar damage.

Worse still, 1 to 2 per cent of women are silent carriers of the ataxia-telangiectasia gene and this is highly sensitive to the carcinogenic effects of mammogram radiation. They have a fourfold higher risk of breast cancer from mammography; by some estimates this accounts for up to 20 percent of all breast cancers annually in the United States. (American College of Clinical Thermography: A Literature Review and Commentary on the Current Status of Mammography)

### Screening - more harm than good

The ten-year trial quoted in the Lancet concluded that, where pre-menopausal women went for annual breast cancer screening, there was no significant reduction in breast cancer mortality – across the 160,000 women tested. Whilst researchers showed that four lives in 10,000 might, at best, be saved they concluded this had to be balanced against the 'increased negative factors'.

But the truth is that this is actually 'old news'. The American College of Clinical Thermography said in 2005 that 'a steady stream of experts have been publishing new evidence in peer-reviewed journals in the US relating to the risks inherent in using mammography for breast screening. These findings of increased damage are of no surprise to a growing number of doctors and specialists who have known for years that some of the cancers they have to treat are linked to the accumulative effects of mammographic radiation exposure'.

Some years ago, according to the ACCT, our own Professor Baum (Professor Emeritus of Surgery and visiting Professor of Medical Humanities at University College London), 'blasted American doctors as "immoral" for screening women under 50 for breast cancer'. Baum said the screening was "opportunistic" and "did more harm than good". "Over 99 percent of pre-menopausal women will have no benefit from screening. Even for women over 50, there has been only a one percent biopsy rate as a result of screening in the United Kingdom. The densities of the breast in younger women make mammography a highly unreliable procedure".

Finding problems that aren't really problems at all

In September 2006 a report from the Nordic Cochrane Centre found that, for every 2,000 women invited to have screening mammograms, just one would have their life prolonged, but ten would endure unnecessary and potentially devastating treatment! Dr Peter Gotzsche, who led the research, said that 'many women were being treated for slow-growing cancers that might never have developed to cause concern if they had not been picked up in the screening'.

The Nordic Cochrane Library is highly and internationally respected; the research took the seven best trials reported to date and reviewed the benefits against the negative outcomes resulting from the screening. It should be recorded very clearly here that the women who participated in screening had a 15 per cent lower risk from breast cancer than those who were not screened. Unfortunately such a 'benefit' might be due to other factors – those women coming for screening might be more concerned and careful about their health anyway – they might have better diets and so on.

The hard fact was that the absolute reduction in the risk of dying from breast cancer for those women participating in

screening was 0.05 per cent. Whereas the risk for a women being screened and then actually treated unnecessarily for a slow-growing - or even benign - cancer was a staggering 30 per cent – giving an increased absolute risk of 0.5 per cent – or ten times the benefit.

Worse, apart from the ten women in every 2,000 given unnecessary treatment, a further 200 will experience weeks or months of unnecessary worry solely because of 'false-positive' findings – the observation of 'cell changes' that eventually turn out to be benign. Problems that aren't really problems!

For the record and our numerous overseas readers, The United States is the only country that routinely screens pre-menopausal women by mammography, although there has been a move in the UK in this direction too. The U.S. also extends its screening practice by taking two or more mammograms per breast annually in post-menopausal women. This contrasts with the European practice of a single view every two to three years.

### Breast Tissue Dangers

Another factor often ignored in the debate is Breast Tissue Density. Put simply, 'dense breast tissue is risky tissue'. The US Magazine Life Extension, amongst others, has summarized a number of research studies on the causes. Factors that increase the density of breast tissue include dairy consumption, synthetic hormone use (like the contraceptive pill or HRT), and smoking. Factors that maintain soft breast tissue include adequate Tocotrienol vitamin E and omega-3 consumption, numbers of babies and length of time spent breast feeding (nine months per baby affords protection).

And here is the conundrum: Soft breast tissue is less risky tissue and ladies need to try to keep their tissue soft to reduce their risk of breast cancer. But soft breast tissue is significantly more at risk from mammogram alpha particle radiation. Catch 22.

Overweight and obese women have problems too. The Archives of Internal Medicine (May 24, 2004; 164(10): 1140-7) reports that obese women are 20 per cent more likely to be wrongly diagnosed with false positive readings. Apparently in obese women, the thicker volume of breast tissue gives poorer image clarity when squeezed between the plates.

**So, how accurate are mammograms?**

Most women have read articles on false positive readings, women having weeks of hell before learning the truth, even mis-diagnosis resulting in biopsies and operations.

Dr van der Horst, a radiologist in the Netherlands screening programme, presented his findings to a meeting of European screening experts at the 4th European Breast Cancer Conference in Hamburg in March 2004.

He was concerned that changing lifestyle patterns have resulted in more post-menopausal women having dense breast tissue. 'This makes it harder for mammograms to pick up tumors or early signs of breast cancer and may lead to unnecessary biopsies because of uncertainties in reading the results'.

His research took a random sample of 2,000 from 54,000 women, who are screened every two years in Holland. The research classified the tissue as dense if more than a quarter of the tissue was dense. Otherwise it was classified as lucent.

The research found that 25 per cent of 50-69 year olds and 17 per cent of 65-69 year olds had dense breasts.

They then looked at cancer rates, comparing total cancers with those detected by the mammograms, i.e. the ability of the mammogram to actually correctly detect a cancer.

In the lucent group it was 67 per cent.  
In the dense group it was 59 per cent.

So according to the research presented at the top European Breast Cancer Conference, at best mammograms are accurate only two in three times.

He also noted that research indicated ultrasound improved accuracy in cancer detection.

### What are we actually measuring?

And here we come to yet another issue, on which scientists in the USA and the UK appear to have contrasting views.

At the American Breast Cancer Conference in California in the same year, a paper was presented by the top breast cancer Professor at UCLA. In this he said that 50 per cent of all positive readings from mammograms concerned problems in the lobes, and 50 per cent concerned problems in the ducts. But whilst lobular readings were indicative of breast cancer, not all ductal irregularities lead to breast cancer.

He stated to the audience of worldwide experts that ductal irregularities (DCIS) were almost always neither cancer nor pre-cancer but due to calciferous particles in the ducts.

(Editors note: Calcium deposits in the ducts might come about in a number of dietary ways – high cortisol levels, low magnesium (40 per cent of Americans were shown to be deficient in magnesium in 2005 research) and low vitamin D

would prevent it being absorbed properly out of the blood stream and into the bones. Excess of dairy in Western diets may well yield high blood calcium levels, but because it leads simultaneously to lowered magnesium and vitamin D levels, the calcium is not absorbed by the bones very efficiently. The truth is that high dairy consumption is likely to result in weaker bones!

This might also explain the Harvard University view that adequate levels of omega-3 and vitamin D would significantly reduce breast cancers. (By removing calcium from breast tissue for example). Breast cancer is often predated by inflammation – omega-3 can help reduce local hormone and inflammation response. Vitamin D receptor sites are prolific in breast cells and vitamin D levels are inversely proportional to cancer rates. Indeed, Professor Hollick of Harvard has gone on record as saying that there would be 25 per cent less deaths from breast cancer if women had adequate daily levels of vitamin D.)

Our Professor from UCLA went further – not only are 50 per cent of positive results ductal, non-cancerous calcium deposits .....only 20 per cent at most ever lead to breast cancer. His view was: 'Watch and wait'. We think magnesium, vitamin D, omega-3 supplements and less dairy might help too!

But this is all in stark contrast to the views of Christie Hospital, Manchester, where a team led by our own patron, Professor Tony Howell, according to their press release wants to test certain current cancer drugs as possible preventative agents for this 'highly dangerous form of breast cancer'. This 'confusion' is apparent in treatment regimes too. In Eire, I had three ladies in the audience diagnosed with ductal breast cancer, all of whom had been told to do nothing but wait. However one lady in my Watford audience had been rushed into radiotherapy!

The Nordic Cochrane Centre comes up with a third view. They say that 'about a fifth of breast cancers detected during screening are early abnormalities known as Ductal Carcinoma in situ (DCIS). Most women with DCIS have mastectomies even though doctors do not know whether they will spread'.

### Confused?

As always, things aren't what they first seem. There has been a strong body of opinion in the orthodox medical fraternity only too keen to stress the importance of regular breast cancer screening, with large vans in supermarket car parks and women feeling that 'they really ought to have one to be safe', when this now turns out to be quite a way from the truth.

Back to Dr Gotzsche, who added, 'Information given to women when they are invited for screening, and that they can get on the internet, is considerably biased in that it underlines the benefits and usually completely omits major harms such as over-diagnosis'.

Be very clear. Breast cancer 5-year survival rates in England, at a little over 73 per cent, are actually below the all-European average (Eurocare 3) and significantly below France and Germany and the best country, Sweden, at 83.3 per cent. According to these figures, ten more women in a hundred survive five years from diagnosis in Sweden than in England; five more in France and Germany. How can we possibly improve our 5-year survival rates quickly?

The earlier we find out there is a problem, and the more problems we clear up (even if they turn out not to be cancer) the better our figures will look. Let's get more women to the screening centres for the sake of the statistics! You think I'm joking? Think again.

This is certainly the view of Dr John Bailer who spent 20 years on the staff of the U.S. National Cancer Institute and was editor of its journal. "The five-year survival statistics of the American Cancer Society are very misleading. They now count things that are not cancer and, because we are able to diagnose at an earlier stage of the disease, patients falsely appear to live longer. . . . more women with mild or benign diseases are being included in statistics and reported as being 'cured'. When government officials point to survival figures and say they are winning the war against cancer they are using those survival rates improperly." Of course, the UK £75 million breast cancer screening programme would never be used in this way, would it?

Professor Michael Baum, originally one of the pioneers of the UK's screening programme, has now wavered and is calling on the National Institute for Health and Clinical Excellence (NICE) to investigate whether it should even continue. He has publicly stated that, "if the (NCC) report stands up, the NHS screening programme should be referred to NICE to decide whether it should be closed down."

The almost manic push for a screening mammogram facing most women is further fuelled by the constant media panic on breast cancer: '42,000 cases per year in the UK, a two per cent annual growth rate, young pop stars now getting it. Where will it all end?'

Hopefully, with some common sense. The recent US finding that breast cancer rates have suddenly fallen by seven per cent, in the year after millions of US women stopped taking HRT, is a start. Recognising that adding synthetic oestrogen to your body, being obese, smoking, having a high dairy intake, and a poor diet with inadequate levels of omega 3 and natural vitamins like D, C and tocotrienol E might be ways to self-destruction, would be a huge step in the right direction.

But there is no doubt that the panic is being fuelled by the results of the screening programme itself. One wonders just how many of the 42,000 cases are problems that are not really problems, but nonetheless fuel the growth figures?

Let us remind ourselves of the key truths, recorded in the expert research above:

- Whatever the tissue state, the results are, at best, only 67 per cent accurate in predicting the development of a real cancer
- Mammogram radiation can be dangerous to soft/lucent breast tissue, and to women with a genetic abnormality, the ataxia-telangiectasia gene, resulting in the actual cause of some cancers
- As many as one in ten women may be the victims of false positive 'over-readings'
- As many as ten women may be treated unnecessarily for every one that is correct
- Some women will even have unnecessary full treatment programmes, including mastectomy, as a result

### Non-invasive alternatives?

Meanwhile, as we have been saying an icon for four years, there is a sensible, realistic and non-invasive screening alternative: Thermography, or thermal imaging. Yes, you can only get it privately in the UK - there are probably only four or five centres in the UK as yet - but the major reason for that is that the NHS are not about to chuck away all their screening mammogram machines whilst admitting they got it wrong all along. Thermography costs about £130 a time and clearly shows if you have a hot spot. If a hot spot shows up, women can then go for a sensible, diagnostic mammogram.

Even Iridology and Kirlian photography, at around £35, can give you some very real indications of trouble and might

even now give you better than 67 per cent accuracy. Who knows? They certainly can't damage your breasts.

What is clear is that the facts of mammograms and screening are not what the medical fraternity have been glibly telling the women of the UK for the last 20 years. And if women are not truthfully informed about either the risks or the inaccuracy, it will be just one more factor in their increasing distrust of 'orthodox medicine' and the powers behind it in the UK. And there's recent research on that too!