

# Physical Activity and Cancer Survivorship

Evidence review and Active ABC programme

*Aim: to persuade you to include cancer rehabilitation as part of cancer care package*

# The problem....

- 4 million people living cancer by 2030 (Macmillan)
- Chronic or late appearing side effects:
  - Fatigue
  - Weight changes
  - Osteoporosis
  - Cardiotoxicity
  - Lymphoedema
  - Loss of confidence
  - Depression and anxiety
  - Limited range of movement

# The problem...

- 53% of long term cancer survivors reported limitation in functioning compared to 21% in age matched non- cancer controls
- Commonest problems were:
  - Crouching / kneeling
  - Standing for long periods
  - Walking short distances
  - Lifting carrying a load

*These are all basic daily activities vital for house work, shopping, childcare etc.*

# Systematic review evidence: PA during adjuvant treatment

| Outcome           | Evidence  | Grade |
|-------------------|---|-------|
| Physical Function | Significant increase in C/V fitness similar modest increases in muscular strength [ES 0.33) ; 17RCTs]                     | A     |
| Fatigue           | No difference in fatigue between exercise and control groups [ES 0.18; 15RCTs ]   | A     |
| Well being        | Small improvements in anxiety [ES 0.21; 6RCT] self esteem [ES 0.25; 3RCT] No effect on QoL [10 RCT] or depression [6RCTs] | A     |
| Body composition  | Slight increase in lean body tissue, significant reductions in body fat [ES 0.25; 7RCTs]                                  | A     |

Effect sizes: 0.2 = small; 0.5 = moderate; 0.8 = large

# Systematic review evidence: PA after adjuvant treatment

| Outcome           | Evidence   | Grade |
|-------------------|--|-------|
| Physical Function | Significant increase in C/V fitness [ES 0.32) ; 14RCTs] large increases in muscular strength [ES 0.90) ; 7RCTs]                      | A     |
| Fatigue           | Significant lowering of fatigue [ES 0.54; 14RCTs ]   | A     |
| Well being        | Significant improvements in QoL [ES 0.29; 16RCT] anxiety [ES 0.43; 7RCT] and depression [ED 0.30; 10RCTs]                            | A     |
| Body composition  | Significant small reductions in body fat [ES 0.18; 15RCTs] and increases in muscle mass [ES 0.13; 5RCTs]                             | A     |
| Bone Health       | Some encouraging findings on bone health density were reported but overall results from 8 trial of various designs were inconsistent | B     |

# Benefits of PA for Survival (influence on disease recurrence and mortality)

## Breast cancer:

Systematic review of 9 prospective cohort studies:  
leisure time PA associated with a 30% reduced  
mortality risk. [Patterson, 2010; Ibramhim, 2011]

<http://www.macmillan.org.uk/Documents/AboutUs/Commissioners/Physicalactivityevidencereview.pdf>

Systematic review & meta-analysis of controlled PA  
trials in cancer survivors *Speck et al. J. Cancer  
Survivorship (2010)*

# Putting evidence into practice... Ten year process

- 2000: Pilot study with 23 women
- 2003: CRUK Glasgow Study - randomised control trial after pilot study
- Dedicated recruiters
- Intervention was pragmatic group exercise classes
- Twice a week for 12 weeks
- 7 Glasgow city council venues and classes in morning afternoon and eve



# Results of the Glasgow Study

- **1054** women were informed of study – *main reason for not taking part was travel (425 women)*
- **203** women were recruited into study in one year
- **177** women completed the study
- After 12 weeks: those in exercise programme improved significantly more than the usual care group in:
  - **Physical functioning** - walking faster and more weekly activities
  - **Shoulder mobility improved**
  - **Breast cancer specific quality of life**
  - **Positive mood**
- 6 months later, those in exercise group still benefited more in terms of improved overall quality of life, physical functioning, mood, less fatigue and depressed.

*No change with exercise on hormonal symptoms or body mass index.*



# Aim to address health inequalities in Glasgow

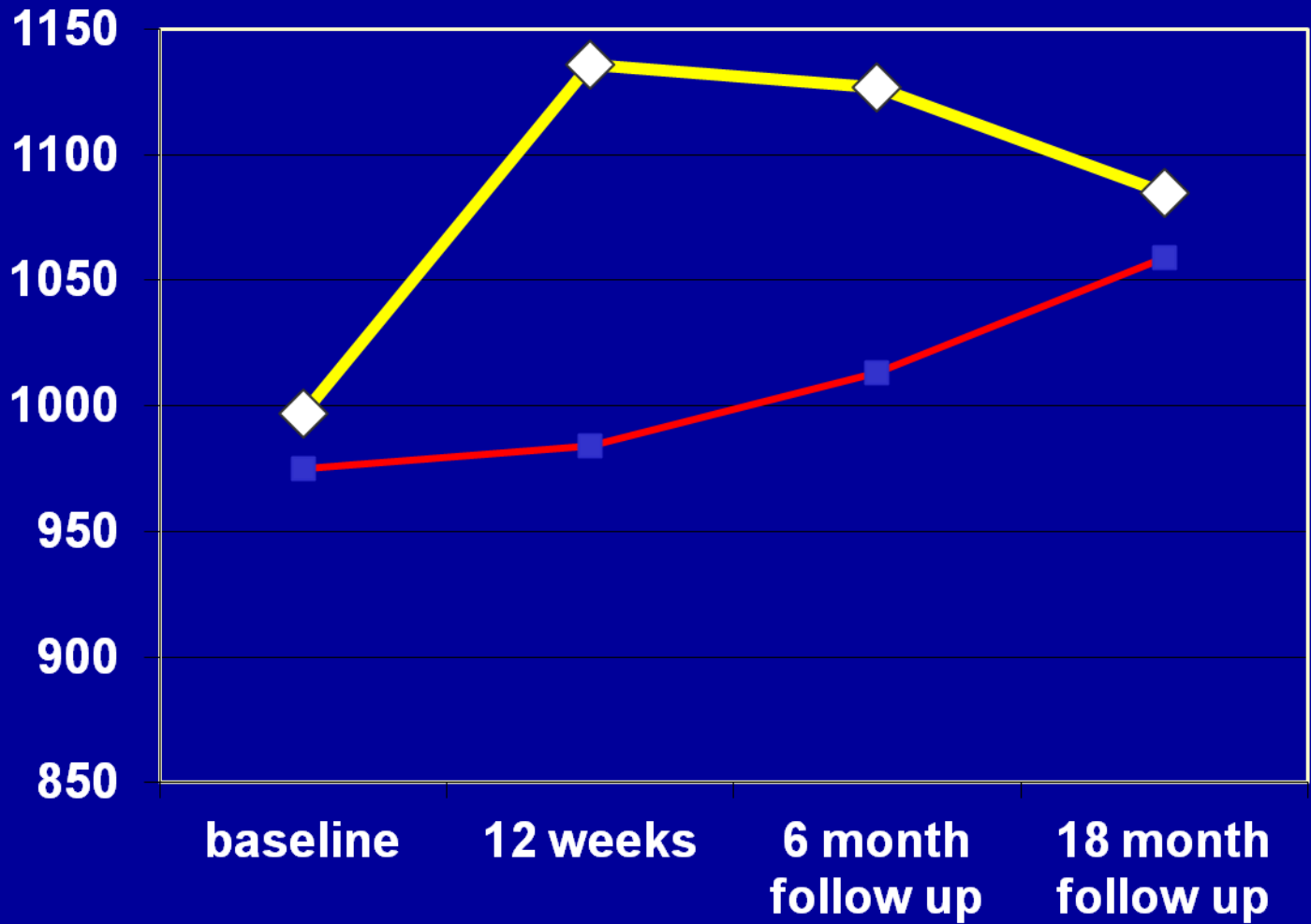
## Women in Glasgow study :

- DEPCAT 1-2 30%;
- DEPCAT 3-5 44%;
- DEPCAT 6-7 26%
  
- Professional 28.0%
- Managerial 20.5%
- Clerical 33.2%
- Manual 19.3%

# Health costs/benefits of exercise intervention

- ▶ NHS costs for intervention was **£400** per women
- ▶ Safe and effective intervention
- ▶ Provided short term and long term physical function and psychological gain
- ▶ Participants spent less nights in hospital and visits to GP - an economic saving to NHS of **£1507** per person
- ▶ Intervention achieved conventional standards of cost-effectiveness
- Glasgow city council have costed programme as 75,000 for 750 referrals per year ie £100 per person

metres  
walked in 12  
minutes



# 5 year follow up

- Of the 203 women in the original study, 114 attended the 18 months follow up and 87 at 5 years.
- At 5 years: women in the original intervention group reported significantly more leisure time physical activity and a more positive mood than women in the original control group.
- Irrespective of treatment group, those who self reported as engaging in sufficient physical activity recorded benefits on functional and psychological variables in comparison to those who self reported that they were not sufficiently active.
- The active group reported more leisure time physical activity and a larger decrease in depression levels at all follow-up points.
- No differences between activity groups were observed for BMI, quality of life, mood or shoulder range of movement at 18 months or 5 years.



# Exercise Programme

# Key Objectives of Active ABC

- ▶ Liaise with CSG for provision of trained instructors and appropriate venues
- ▶ Liaise with MDT in all participating hospitals to ensure all eligible women are aware of the programme
- ▶ Produce appropriate advertising and screening materials
- ▶ Train NVQ level 3 fitness instructors to a level that ensures all women are provided with safe standard and effective programmes
- ▶ Monitor uptake and adherence to the programme - swipe card used
- ▶ Encourage participants to move to being independent exercisers - Live Active programme

# Funding:



- Anna Campbell: **Project Manager**
- Sian Tovey, Julie Doughty & Sheila Stallard - **Breast Cancer Surgeons**
- Diana Ritchie - **Consultant oncologist**
- Tony McKay & Deborah Wylie - **Active Health Development Officer,s Culture & Sports**
- Heather Jarvie & Claire Scott - **Senior Health Improvement, NHS Greater Glasgow and Clyde**

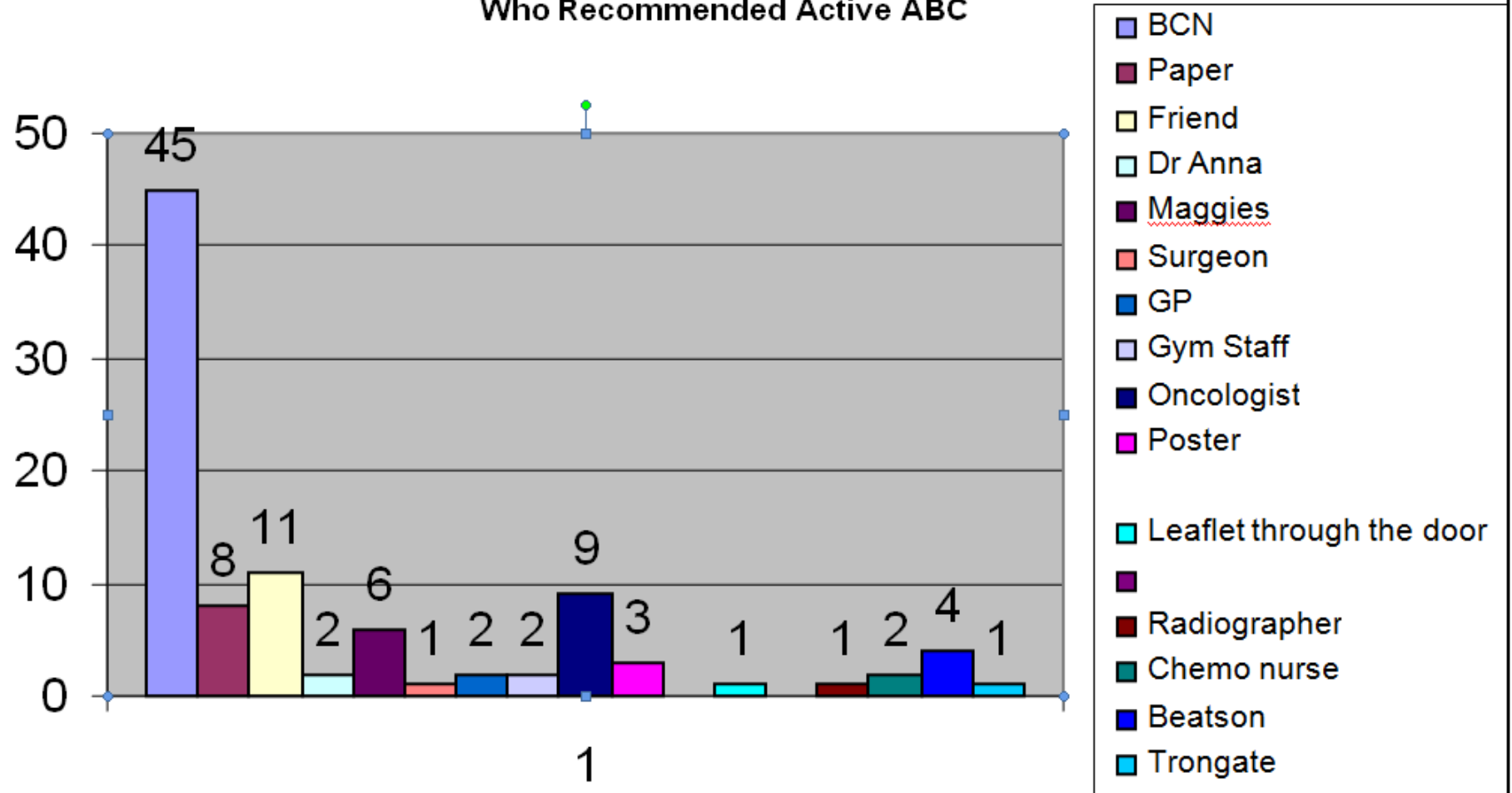


# Two years on..

- ▶ First city-wide community based programme
- ▶ NVQ Level 4 Trained cancer exercise instructors
- ▶ 4 venues - Springburn, Tolcross, Kelvin Hall and Bellahouston Leisure Centres
- ▶ Classes Mon - Sat: during day, evening and at weekend
- ▶ 146 women have participated in the programme
- ▶ 35% join during treatment, 40% at end of treatment, 25% within 2 years of treatment
- ▶ Participants ages 40 - 77, analysis of post code and employment status not yet analysed.
- ▶ Of the 146 registered 105 of the ladies subscription has now expired.
- ▶ Of all the ladies ever registered 95 are accessing activities out-with the ABC programme. 51 of all ladies registered use ABC as their main form of exercise.

# ABC Stats October 2011

## Who Recommended Active ABC



# Comments from participants

- ▶ *“I am thoroughly enjoying my exercise classes every Tuesday and Friday with Frances at Tollcross. So far I have lost over 10 pounds, have got fitter and feel so much better about myself and I sincerely hope that more women can get to know about this excellent initiative”*
- ▶ *I have thoroughly enjoyed the benefit I have received from the classes along with the chance to talk with people like myself who have experienced the effects and fatigue through having breast cancer. These classes have been a god send to many people including myself, and I would like to take this opportunity in thanking everyone who has provided and helped to keep these classes going.*
- ▶ *It gets me out my bed on a Saturday morning and I enjoy the exercise as do the others and of course we have a good natter*

# Dos and Donts

- ▶ Set up a steering group to include all stakeholders and meet often during planning phase and start of programme
- ▶ Ensure you have a “champion” for the project at the referral / recruitment site
- ▶ Constant updates and re-prompts to clinicians are necessary to ensure continued uptake
- ▶ Ensure a “moving on” strategy in place to ensure self management
- ▶ Collect as much data as possible for auditing and research purposes

# Dundee Programme update

- ABC running since 28 Jan 2011).
- 25 on register.
- class average of 9
- **age** range 31-68 years.  
average age - 54 years.

## Demographic

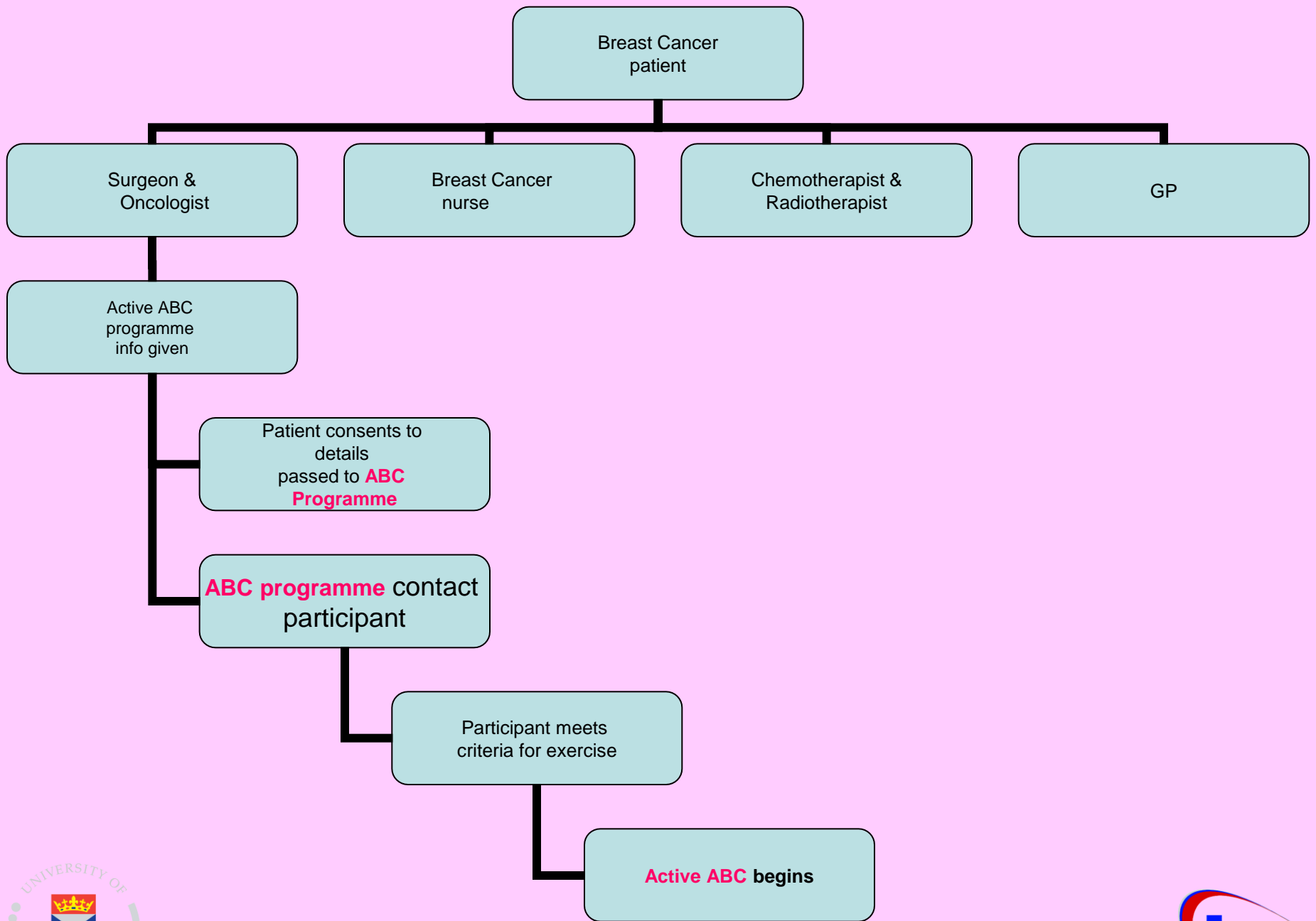
- 3 Dundee West End City
- 2 Fife
- 1 Angus
- 6 Broughty Ferry
- 1 Invergowrie

# Participant information

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- average age - 54 years.

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