The Benefits of Providing an In-House Musculoskeletal (MSK) Physiotherapy Service at a Cardiothoracic Hospital for Patients Following Pectus Deformity Correction Surgery

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Introduction

• One thoracic surgeon carrying out Pectus Correction Surgery at Cardiothoracic Hospital

• Completing both Ravitch and NUSS procedures for both Pectus Excavatum and Carinatum deformities

• Prior to January 2015 patients where referred to local Musculoskeletal (MSK) Physiotherapy services following surgery
Problems Encountered

• Local centres regularly asking for telephone advice from Cardiothoracic centre due to lack of knowledge / skills with this cliental group

• Refusal of referrals resulting in no physiotherapy post surgery for some patients

• Limited follow up reviews

• Poor functional and aesthetic outcomes due to poor post-surgery advice and care (increased upper limb stiffness / reduced upper limb strength / increased back and shoulder pain leading to poor posture)
Service Development Plan

• Physiotherapy Department and Thoracic Surgeon identified need for in-house follow-up review

• Senior Physiotherapists with extensive experience and knowledge in the management of Pectus correction surgery to lead the service
Physiotherapy Pectus Clinic

• Outpatient Clinic

• 1 clinic per week

• Seen at 3/12 post operatively (to allow for tissue healing and the related post-operative precaution period has ended)

• If patients need to be reviewed prior to the 3/12 period patients can be seen to support their recovery and optimise outcome.

• Follow up appointments (if required)
Treatments Offered

• Postural correction and retraining
• Range of movement exercise
• Strengthening exercise
• Manual therapy
• Kinesio® Taping
• Review of surgical precautions
• Lifestyle advice
Statistics

- 2014: 8 Operations completed
  7 NUSS / 1 Ravitch
  None of which were followed up at Papworth – all 8 patients were referred onto their local MSK Physiotherapy service.

- 2015: 16 Operations completed
  9 NUSS / 7 Ravitch
  - 13 patients seen by Papworth Physiotherapists
  - 1 patient received telephone advice
  - 1 patient referred to local due to travel time from cardiothoracic centre
  - 1 patient declined physiotherapy follow up appointment
Statistics Cont.

Age:
• 2014 – 19 – 35 years
• 2015 – 15 – 37 years

Gender:
• 2014 – 2 females 6 males
• 2015 – 2 females 14 males
Demographics of patients during 2015
Initial Benefits

• Improve communication with thoracic surgeon

• Reviewed quickly by surgeon or physiotherapist if problems identified

• Specialist knowledge and experience of rehabilitation of Pectus patients

• Continuity of care from inpatient to outpatients

• Close links to other professions; radiology, specialist nurses, tissue viability to improve follow-up care
Evidence for Physiotherapy post pectus correction Surgery

• Limited evidence for Physiotherapy pre or post-Pectus Surgery (or any thoracic surgery)

• A Prospective Descriptive Study in 21 Patients by Schoenmakers et al in 2000 (Netherlands) found that physiotherapy as an additional treatment to surgery for anterior chest wall deformities is only indicated if specific abnormalities can be found that could be corrected by physiotherapy
Evaluating the Service

Two fold evaluation of the new clinic

**Subjective Postural Questionnaire**

- Pre-op, Post-op, 3 Month follow-up

Allowing for data to be evaluated on the improvements after surgery and physiotherapy on their body image and posture

**Patient satisfaction**

- On discharge from the clinic

Patients are also being asked to complete a patient satisfaction questionnaire on the new Pectus Physiotherapy Clinic to evaluate the service currently and to amend or develop any further services needed
Papworth Hospital NHS Foundation Trust

Pectoralis Musculotendinous Physiotherapy Service Satisfaction Questionnaire

You have been asked to fill in the below questionnaire based around your experience of the physiotherapy service following your Pectoralis muscle surgery. The questionnaire is anonymous, please place it in the envelopes provided and hand back to reception before you leave the outpatient on your last appointment.

Gender:  Male  Female

Age:  <16 Years old  17-20 Year old  > 21 Years old

Operation:  Pectoral Muscle (arm surgery)  Pectoral Muscle (pigeon chest)

1) How would you rate the physiotherapy and advice you have received from the physiotherapy team during your inpatient stay?

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Is there anything else you would like to have seen from the physiotherapy department in the immediate post-operative period? Please comment below


2) How satisfied were you with the information booklet you received?

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3) Did you receive your three month initial appointment in a timely manner?

Yes  No

4) Were the choice of appointments available suitable for you?

Yes  No

5) Did your physiotherapist arrive on time for your appointment?

Yes  No

6) Do you feel you had enough time to discuss your problems with the physiotherapist during the appointment?

Yes  No

7) How satisfied are you with the advice and treatment you received during your appointments?

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8) Do you feel your problems were addressed satisfactorily?

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9) Do you have any other comments on how we could improve the service for your future patients?


Thank you for participating.
Future developments

• Audit of Patient Satisfaction on the Physiotherapy Clinic

• Comparison of patients posture and body image perceptions pre and post-surgical and physiotherapy intervention

• The need for a randomised, controlled clinical trial to study the effects of physiotherapy on postural abnormalities in patients with anterior chest wall deformities pre and post-operatively

• Identify any further service needs
Thank you for listening
Any Questions?