# STUDY PROTOCOL

**Australian Paediatric Surveillance Unit**

# Prader Willi Syndrome

**COMMENCING January 1998**

## BACKGROUND

The diagnosis of Prader-Willi syndrome is frequently delayed, even into adolescence. This may be due to lack of familiarity with the syndrome due to its low incidence. This study aims to establish the incidence in Australia and will be the first study to prospectively monitor PWS in a general population. Previous estimates of incidence range from 1/5,000 to 1/100,000. However, these have been derived from at risk populations.

PWS was first described in 1956 and more recently a clinical classification incorporating major and minor clinical features has been developed (see case definition). In addition, recent genetic techniques have identified an abnormality of chromosome 15 (q11-13) region. A variety of genetic mechanisms contribute to this abnormality and it is possible to identify each of these using a combination of genetic tests such as routine cytogenetics, FISH, methylation testing and molecular studies with DNA markers. Such testing is available in at least one major teaching hospital in each state and further information is available through Dr A Smith (see contact details below).

## OBJECTIVES:

1. To ascertain the incidence of PWS and the mean age of diagnosis
2. To estimate how often DNA testing is used in making the diagnosis and the methods used
3. To establish whether different PWS phenotypes are associated with different genetic abnormalities

## CASE DEFINITION AND REPORTING INSTRUCTIONS

***Any child less than 15 years seen in the last month with newly diagnosed Prader-Willi syndrome. Diagnosis may be made either clinically or following genetic investigation (karyotype, FISH test or methylation test).***

**The major and minor diagnostic criteria for PWS are listed:**

| • **Major Criteria** | ***Minor Criteria*** |
|---|---|
| neonatal hypotonia | decreased fetal movement |
| weight gain ->obesity | behaviour problems |
| facial features | sleep problems |
| developmental delay | short stature |
| feeding difficulties | micromelia |
| hypogonadism | narrow hand/ulnar border |
| food obsession | eye abnormality |
| | thick saliva |
| | speech defect (nasal speech) |
| | skin picking |
| | hypopigmentation compared to family |

Children *three year or under* require at least three major clinical features and 2 minor clinical features for diagnosis

Children over *three years* require at least four major clinical features and 6 minor clinical features for diagnosis

## FOLLOW-UP OF POSITIVE RETURNS

A questionnaire requesting further details will be sent to clinicians who notify a case.

**A copy of the questionnaire is enclosed for your information.**

## INVESTIGATOR CONTACT DETAILS (*Principal Investigator)


***Dr Arabella Smith,** Cytogentic Department, The New Children's Hospital Sydney

**Dr Garry Warne,** Department of Endocrinology and Metabolism, Children's Hospital, Melbourne

**Dr Eric Haan,** Department of Clinical Genetics, Women's and Children's Hospital, Adelaide

**Dr Philip Montgomery,** "Irabeena", 53 Ord Street, Perth

**Contact Address:**

Dr Arabella Smith
Cytogenetics Department
New Children's Hospital
PO Box 3515
PARRAMATTA NSW 2124
Tel: 02 9845 3222
Fax: 02 9845 3238
Email: ellies@nch.edu.au