Guidelines for the management of Gender Identity Disorder (GID) in Adolescents and Children

Specific Endocrinological Recommendations approved by the British Society of Paediatric Endocrinology & Diabetes

INTRODUCTION:

Puberty is a complex process of change which takes place over a period of several years. This process is comprised of different components which together induce the physical and psychological changes which enable a child to develop through adolescence into a mature and healthy adult.

This is a time of great change and adaptation for the young person, and so to interrupt, or to interfere with normal pubertal development may result in the unsatisfactory development of secondary sexual characteristics, failure to achieve adequate peak bone mass, body segment disproportion and significant psychopathology.

Puberty is a time of great psychological fluidity with the potential for very significant change. It is the period during which unique and independent identity is established, and sexuality developed. We believe that individuals cannot confidently assess whether or not they are genuinely misplaced within their body until they have experienced their own natural pubertal hormonal milieu and consequent physical changes.

HORMONAL INFLUENCES:

1. Development of secondary sexual characteristics.

These occur predominantly under the influence of oestrogen (in biological females) and Testosterone (in biological males) No hormonal intervention should be introduced until this process is complete. The individual has to accept that as part of this process, there will be, inevitably, changes which they consider "foreign" and undesireable, such as the development of breasts and the onset of menstruation in girls, and erections, facial hair and deepening of the voice in boys.

This can of course cause great distress with the anticipation of voice change or menstruation for example, and very close liaison with the Adolescent psychiatry team is essential over this period. Speech therapy may also help in the retraining of a voice that has changed under the influence of pubertal hormones.

2.Differential growth and final height

During the adolescent growth spurt, the child hood the "disproportion" of relatively long legs compared with spinal height, is "corrected" under the influence of increasing concentrations of sex hormones, working together with growth hormone. Failure of the spine to grow normally during puberty may thus result in

disproportionate adult stature with eunicoid proportions (long legs with a short back) and potential compromise of final adult height.
Thus delay or interruption of endogenous sex hormone production can have irreversible consequences.

3 Acquisition of normal adult peak bone mass.

This is an essential requisite for healthy adult life. Bone density and bone mineral content increase rapidly during adolescence and peak in the early twenties. Sex hormones during puberty play a key role in the acquisition of peak bone mass and in maintaining the bony skeleton in later life. Impairment of this process can substantially increase the risk of osteoporotic fractures in the longer term.
Thus the interruption of the production of endogenous sex hormones (e.g with GnRH analogues) should be delayed for as long as possible and kept to a minimum period (12months).

4. Psychological development

There is evidence that the brain is "programmed" by sex hormones from the developing gonad (potential testis or ovary) during foetal life to respond to the surge of the same sex hormones during puberty. These phases are described as neonatal "wiring " of certain sexually dimorphic pathways, followed by "activation" of the same pathways with puberty. It seems neither sensible nor desirable therefore to deny the brain of any individual, the natural hormone environment at puberty. This period of "activation" is the most likely time for change and reversibility of the Gender Dysphoria, and if disrupted could result in a long term confusional state or other psychopathology.

RECOMMENDATIONS BASED ON THE ABOVE REASONING

1. An adolescent should be left to experience his/her natural hormone environment uninterrupted until:
    a. Development of secondary sexual characteristics is complete.
    b. Final height has been achieved.
    c. Peak bone mass has been accrued (ideally).

2. Increased psychological support should be available to enable the individual to explore their own natural pubertal changes rather than to necessarily regard them as undesirable. This may allow for more flexibility and the opportunity for change from the course of GID.

3. The first stage of any hormonal manipulation should always be completely reversible as with use of GnRH analogue ("blocker") for example. Suppression of endogenous sex hormones alone should be for a maximum period of 12 – 15 months, because of concerns re osteoporosis. This effectively renders the individual pre-pubertal once more and allows time to re-consider gender identity in a hormonally neutral environment.

4. The contrary sex hormone should be introduced gradually (mimicking normal puberty) to allow adjustment, both physically and emotionally, to the reversed hormone environment. The sudden introduction of high doses of sex steroids can risk thrombosis and may result in suboptimal development. Patients should be made aware of the risks involved *before* they are tempted to try to buy drugs on the black market and usually over the internet..

5. Blocker (analogue therapy) should be continued until adult doses and levels are achieved. Doses of oestrogen or testosterone in excess of normal adult HRT should be avoided, especially within the adolescent population. The risk to an individual of thrombosis (heart attack, stroke, venous occlusion) is increased in a dose dependent manner. A patient with a positive family history of thrombosis or hypertension for example, should be carefully screened for abnormalities in lipid and clotting profiles *before* hormone replacement is commenced.

6. It is preferable to use a natural form of exogenous hormone replacement, and the transdermal route is also recommended depending upon patient acceptability.

7. The risk of breast cancer in males treated with synthetic oestrogen is unknown, but they should be aware and instructed in self-examination. There is a small increased risk of Breast Cancer (between 1.1 to 1.3) with use of synthetic oestrogen in females,

8. All hormonal manipulation should be supervised by an Endocrinologist with experience of adolescents and transition should be made to an adult endocrine service at an appropriate time (usually coincidentally with referral to an adult unit for surgical management).

8. Guidelines for the initial assessment prior to treatment with analogue (blocker) therapy, and surveillance once on it are contained in **Appendix A.**

Appendix A.

Gender Identity Development
Day case protocol

Baseline, pre-GnRH analogue treatment

All subjects

Ht & Wt

BLOODS
- Karyotype
- LH, FSH
- Testosterone
- DHEAS, A4, DHT
- Oestrogen
- Prolactin
- TFT
- FBC, U&E, Bone Profile, LFT

RADIOLOGY
- Bone age
- BMD by DEX

PSYCHOMETRIC TESTING
- Using a specially devised questionnaire and by key worker from the Gender Dysphoria team

Biological females only
- Standard dose Short Synacthen
  17OHP at 0 & 30'and cortisol at 0, 30 & 60'
- Pelvic ultrasound

No additional tests required for **biological males**.

6/12 ly assessments whilst on GnRH analogue

Ht & Weight

LH & FSH
Testo & Oestradiol
PRL

Dexa Scan (Annually)
Questionnaire (Key worker)