



**SURGERY ON-LINE**

**THE CRYPTORCHIDISM CONUNDRUM:**

**THE NEED FOR A SPECIFIC CARE PATHWAY.**

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## **Abstract**

### **Background:**

Whilst Cryptorchidism is both a common problem and its complications well circumscribed, its management is somewhat suboptimal according to cited literature.

### **Objectives:**

Our study was aimed towards examining referral patterns for undescended testes to a UK tertiary centred and comparing them with the outcome of the ensuing clinic visits.

### **Methods:**

Data was collected from eighty-two sets of patient notes using a pro-forma so as to examine a number of variables including patient demographics and age at referral, referral details and outcome in clinic.

### **Results:**

43% of patients were over two years of age at referral. On examination 56% of referrals were found to have either normal or retractile testes.

### **Conclusion:**

Our study highlights the need for a structured care pathway between the neonatal team the community and tertiary centres on at least a local, if not national level.

## **Introduction**

Epidemiological data from studies such as the John Radcliffe hospital Cryptorchidism Study Group published over a decade ago showed undescended testes (cryptorchidism) to be a common problem, affecting up to 3% of newborn males <sup>(1-2)</sup>. Parallel scientific research has shown that germ cell counts in cryptorchidism remain normal during the first six months of life but subsequently decrease along with Leydig cell numbers; 38% of testes having a complete absence of germ cells after two years <sup>(3-4)</sup>. In addition, Cryptorchidism remains the only well established risk for testicular cancer as documented by the UK Testicular Cancer Study Group 1994. Cryptorchidism has been associated with complications such as torsion and inguinal hernia <sup>(5)</sup>.

In light of these factors it has become widely accepted that orchidopexy should be carried out before the age of two years <sup>(6)</sup>. Indeed the series of Hall reports from 1990, 1996 and 2003 on child health surveillance (CHS) has repeatedly advised that boys with undescended testes at eight weeks should be referred to a surgeon. The idea being that the surgeon would see the child soon after and again at one year to decide if surgery is required.

Whilst this proposal may have a good theoretical basis there are no examples of successful implementation cited. The reasons behind this, lie in the pressure on resources such a surveillance program would place on an already stretched system, especially when it can be argued that spontaneous descent occur in the majority, leaving a frequency of about 1% at one year of age <sup>(1)</sup> In light of this a more realistic target of referral following the 8 month check has been widely adopted by most authors <sup>(7-8)</sup>

### **Aim:**

To determine the outcome of referrals for undescended testes (UDT)

## **Methods:**

To examine the referral patterns in our locality we carried out a retrospective audit of 82 patients referred to the John Radcliffe during the 18 month period from February 2003 to September 2004 for cryptorchidism. Our patient group was drawn from referrals to one specific consultant so as to minimize confounding variables.

Data was collected from patient notes using a standard form recording patient demographics, diagnosis at referral, outcome of clinic visit and subsequent management.

Assimilated data was then tabulated so as to examine the age groups of those referred to clinic and the differences between the diagnosis at referral and that found at clinic.

## **Results:**

### **AGE AT REFERRAL:**

Our study found that the 13% of referrals occurred before 6 months of age and 43% occurred after 2 years of age. Only 17% occurred between 6-12months of age. (Table 1)

### **REFERRAL PATTERN**

Our study found 43 (52%) patients were referred with unilateral undescended testes (UUDT), 21 (26%) with bilateral undescended testes (BUUDT) and 18 (22%) as possible retractile.

### **FINDING AT CLINIC VISIT:**

The specialist clinic visit revealed 21 (26%) patients with descended testes, 26 (32%) with UUDT, 3 (4%) with BUUDT, 25 (30%) with retractile testes and 7 (8%) patients did not attend clinic (DNA).

#### REFERRALS VERSUS FINDING AT CLINIC:

When examining differences between diagnosis at referral and that found in clinic we found that 56% of referrals were normal or retractile testes. Also apparent were differences between Children with BUDT on referral (26%) and those confirmed to be BUDT in clinic (4%) (Table II).

On further analysis of the 21 patients with normally descended testis noted at clinic, 3 (14%) patients were referred as retractile, 9 (43%) as UUDT and 9 (43%) BUDT. (Table III).

Twenty-five patients were found to have retractile testes on clinical examination. Of those patients 11 (14%) were referred as retractile, 7 (28%) as UUDT and 7 (28%) as BUDT. (Table III).

#### OUTCOME OF CLINIC VISIT:

Of the total of 82 referrals, 29 (36%) patients required orchidopexy, 46 (56%) patients were discharged as normal (21%) or retractile testis (25%), and 7 (8%) patients did not attend clinic. Eleven patients, with referral at less than 6 months of age were followed up 6 months later and discharged (See fig 1).

#### **Discussion:**

Our data has demonstrated that within community practice there is still some uncertainty as to the appropriate age for referral for cryptorchid testes. Whilst accurate diagnosis is widely accepted to be somewhat subjective and difficult to those with less experience of undescended testes, our study shows that the majority of referral was either early or late in relation to the optimum time for surgery. This is however not a local phenomenon as our findings are similar to those of other published reports. For example, in Essex, UK, between 1983 and 1986, only 46% underwent orchidopexy

before the age of 6 years<sup>(7)</sup>. In Newcastle, UK, 25% underwent orchidopexy by 2 years in 1986<sup>(8)</sup>. In a North American multicenter study from 1991 to 1993, mean age at surgery was 4.2 years, with 30% under 2 years at surgery<sup>(3)</sup>. Baseline audits of other areas of the UK have demonstrated that the mean age of orchidopexy surgery to be in the region of four years<sup>(8)</sup>. More recent publications outside the UK have shown mean age of orchidopexy to be 5.6 years and appropriately timed surgery to be only in 25% of their study group<sup>(9-10)</sup>. So here we have a conundrum, whilst referrals for cryptorchidism may in fact be early or appropriate, many others who actually require surgery are presenting late.

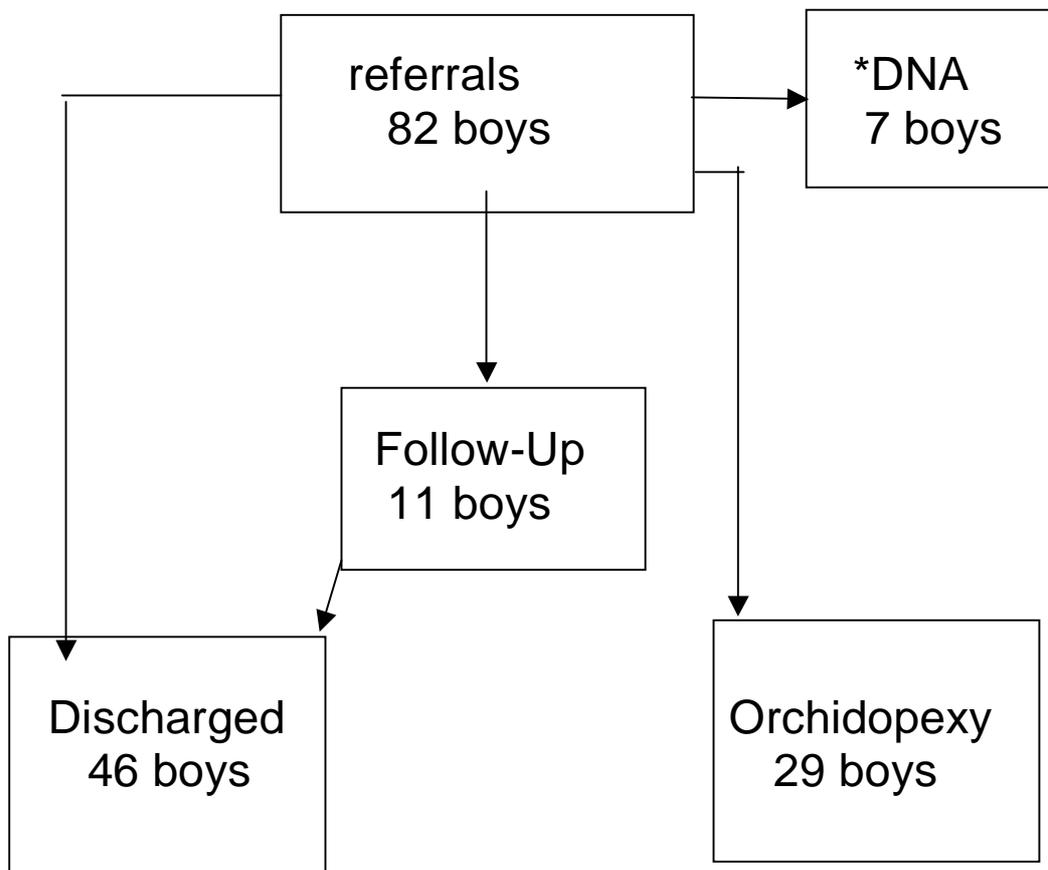
To explore the reasons behind this conundrum we explored our local practice: currently paediatric SHO's who identify undescended testes at neonatal examination should notify the primary health care team in writing. The primary health care team is then responsible for follow up. However, no specific timescale is given. Parents are informed verbally at the neonatal examination but no written information is given to enhance the likelihood of follow up.

Our study highlights the need for a structured care pathway between the neonatal team, community and tertiary centres. We would recommend referral to a specialist following the 8-month check.

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Fig 1: Outcome of clinic visit



\*DNA = Did not attend

Table 3: Normal and retractile testes versus referral

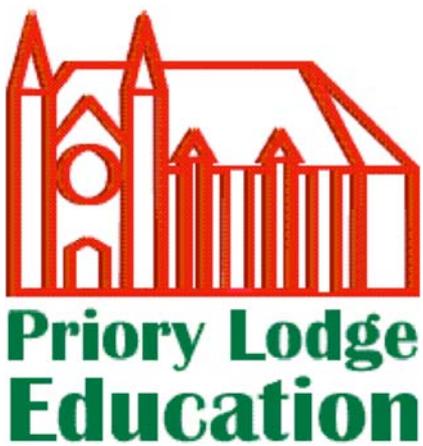
Referral Letter	Clinic Visit Outcome	
	Normal 21 patients	Retractile 25 patients
Retractile	3 (14%)	11 (44%)
UUDT	9 (43%)	7 (28%)
BUDT	9 (43%)	7 (28%)
Total	21 patients	25 patients

Table 1: Ages at referral

<b>Age</b>	<b>Number Total 83</b>	<b>%</b>
< 1 month	2	2
1-6 months	9	11
6-12 months	14	17
1-2 years	22	27
> 2 years	35	43

Table 2: Referral compared to clinical outcome

	referral (%)	Clinical Examination (%)
UUDT	43 (52%)	26 (32%)
BUDT	21 (26%)	3 (4%)
Retractile	18 (22%)	25 (30%)
Normal Testes		21 (26%)
DNA		7 (8%)
Total	82 patients	82 patients



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