

# Management of the hyperactive child

Management of the hyperactive child is dependent on an understanding of family dynamics and a knowledge of the presenting features which vary depending on the age of the child.

by Dr J N Klopper MBCChB

Patterns of behaviour predictive of hyperactivity are sometimes present in the first days or weeks of potential life. This does not mean that the behaviours will cause immediate problems – this depends on environmental pressure, and the degree of tolerance of parents.

During each of major developmental stages quantitative and qualitative differences exist between the behaviours of the hyperactive child and his same-age, same-sex peers. It is usually the cumulative effect of a number of behaviours which lead parents and doctors to suspect hyperactivity.

## Infancy

If we were limited to a single descriptive word, "difficult" might be the best choice, with one aspect of this quality being a pervasive kind of irregularity in both the infant's physiological and psychological functioning.<sup>1</sup>

For instance he cries easily, and may have a distinctive high pitched cry or an angry monotonous scream. This starts neonatally and continues for most of the first year. It differs from crying caused by colic in that it starts earlier, lacks the painful piercing quality and is not paroxysmal.

He often cries as soon as he awakens, and cannot be comforted. This may happen at night. He only has brief periods of quiet sleep. He does not fall asleep easily or at regular times.

His personality is often unpleasant; he is hypertonic, querulous, irritable, demanding, unsatisfied, and rarely smiles (*Ambrose 1969*).

The lack of smiling may have serious consequences on the mother-child relationship, as well as for his cognitive development.<sup>2</sup> Mothers show enormous delight when their baby first smiles at their face. This smiling response increases the chances that he will be involved in longer durations of playful interaction with the mother which in turn provides important sensory inputs and early cognitive struc-

turing not provided in the feeding situation alone.

The difficult behaviour of a hyperactive infant will strain the patience and enthusiasm of the most tolerant of mothers. In a longitudinal study in 1967, Sander<sup>3</sup> showed that this difficult behaviour could cause lasting damage to the mother-child relationship. A temporal sequence of five levels of adjustment have been identified during the first eighteen months of life.

Each level must be mastered if the next level is to be accomplished without unusual difficulty. In the Sander study it was found that the degree of harmony in the mother-child relationship at any level was dependent on the successful resolution of adaptation at the previous level. This involved the initial regulation of infant's rhythms of feeding, sleeping etc to ensure a certain predictability which resulted in feelings of confidence and competence in the mother; development of smiling behaviour in infants and reciprocal co-ordination of caretaking activities with an overlay of mutual affection and wellbeing; marked increase in infant's initiation of social exchange and bids for attention; increase in independence that was facilitated by the mother's knowing when to intervene; increase in genuine independence as infant began to achieve psychological and physiological separation from the mother.

It can be readily seen that the hyperactive infant and his mother might have a very difficult time achieving these tasks.

During the first three years of life mothers of HA children were critical of them and showed a lack of affection; this continued to be evident as a low intensity of interaction throughout the pre-school and elementary period.

A chronically difficult infant usually will elicit negative emotions in the mother, and an indifferent or rejecting mother may produce a restless, fretful or unresponsive infant.<sup>4</sup>

Once a pattern of hyperactivity has been established, whatever the origin,

both mother and child will contribute to the problem by this interaction that maintains and aggravates it. The main purpose of early intervention is to prevent the formation of a pattern of negative interaction, or to interrupt this cycle if it is already present.

The preschool child is a more difficult management problem because he is more mobile, fearless and doesn't learn from experience.<sup>5</sup> He continues to show irregularity of movement, mood and function; and is a light sleeper who sleeps for a short time only.

He may have violent fits of rage with a low frustration tolerance. He may have poor attention span, doing poorly in a group because he may be aggressive or destructive. This causes rejection leading to poor self esteem.

He is unresponsive to discussion, persuasion or discipline and is accident prone. He seems to be a compulsive toucher. Delayed speech is common and has two results. It slows down acquisition of skills and cognition that facilitates daily functioning. Shift from tactual to visual dominance is delayed.

This in turn is aggravated by the fact that weary mothers of hyperactive infants infrequently engage in social talk. He walks soon and shows unusual success in getting in and out of locked and closed rooms, emptying drawers and opening food and other supplies. He is often the victim of accidental poisoning.

The hyperactive child is usually not referred for treatment before school entry because the symptoms only differ in degree from the normal preschool child. The two groups can only be distinguished by their relative ability to attend to a teacher in a structured situation. In free play they are indistinguishable from other children.

In middle childhood the hyperactive child is less of a problem at home because he spends less time there. He is still extremely active in a precipitate way with underlying clumsiness; disruptive; unable to persist with an activity; often a light sleeper; has a Jekyll and Hyde quality, some days acting like an ordinary child.

Depression often results from a poor self-image that begins with parental, especially maternal rejection. This rejection is due to the mother's unwillingness to accept or recognise the problem of hyperactivity.<sup>6</sup>

In the neighbourhood, he has poor peer relationships due to poor social skills.<sup>7</sup> His high rate of activity is aversive to others, so that in addition to limiting their interactions with the child, they are also more punitive when they interact with him.

Two behaviours may aggravate the situation: his tendency to dominate his peers and, a tendency to touch his peers when he talks to them.

He is unable to play games properly due to his disruption, clumsiness and in-

ability to sustain attention.<sup>8</sup> Overall, various studies suggest a downward spiral in the academic facets of the hyperactive child's school performance. This is probably the result of an interaction between his deficits in attention and cognition, and his sense of failure and lack of motivation.

IQ ratings are often falsely low, due to the effects of short attention span, expectations of failure and poor confidence.

It is clear that early long term remediation within the context of meaningful success experiences is critically important for these children. It is difficult to picture any activities in which these disabilities do not interfere with normal performance.

At home the child might have a problem doing chores, cutting and eating food, dressing, or listening and talking to family members – in short, with all life activities. The same is true of peers.

Picture any activity, whether it be rugby, basketball, hop-scotch, tag, jump-rope, table-games or just talking with friends, and one can see how the learning disabilities interfere with mastery and success. They do not just have school disabilities, they have a life disability.

**Adolescence** is a more difficult period than middle childhood due to two sets of problems: poor school performance and self-image, lack of social skills, difficult personality and anti-social behaviour related to hyper-activity. The other set includes those problems that normally

beset adolescents. In regard to the identity crisis, the hyperactive child who has been taking medication until adolescence and then had it discontinued, suddenly has a whole new post-drug personality to cope with, for which neither he, nor his family are prepared.<sup>9</sup>

In the 1950's to the 1960's the clinical literature held the view that hyperactivity disappears in adolescence.<sup>10</sup> This however does not alleviate the remaining major problems especially those of poor educational achievement and social and emotional maladjustment.<sup>11</sup>

In one study there was more evidence of an association between hyperactivity of childhood and specific psychiatric disorders in adulthood.<sup>12</sup> Disorders of attention tended to remain. There was a tendency towards emotional immaturity and an inability to attain goals. 30% of these adolescents had no close same-age friends and 25% were characterised by greater restlessness, aggression and anti-social behaviour.

Poor mother-child relationships, parents in poor mental health and punitive child rearing practices were predictive of this group.

The results of many studies suggest that the tendency to discontinue various forms of intervention in early adolescence is an error that has potentially serious implications for the adolescent's development and success as an adult.

Most of the studies show the hyperactive child to be at serious risk for academic, social and emotional problems in adult life.<sup>13</sup> The demands of adult life are more flexible and jobs requiring endless energy, an outgoing manner, quick decision, physical risk, flexibility and individual freedom, are well suited to people with a hyperactive temperament.

The fact that adult life offers the hyperactive person alternatives that suits his temperament and allow him to function effectively, supports the contention that many of the problems of the hyperactive child would diminish if schools were modified to meet the requirements of some of his behaviours.

### Effects of medication on academic and social achievement

Because the cause of the problem is invisible, it is difficult to make a firm diagnosis, and even more difficult to arrive at a near universal therapy. Still, certain drugs are frequently prescribed, especially Ritalin, to help HA children focus better on one fact at a time.

This is usually in conjunction with other therapy eg. special education, psychological treatment, conference with parents etc.

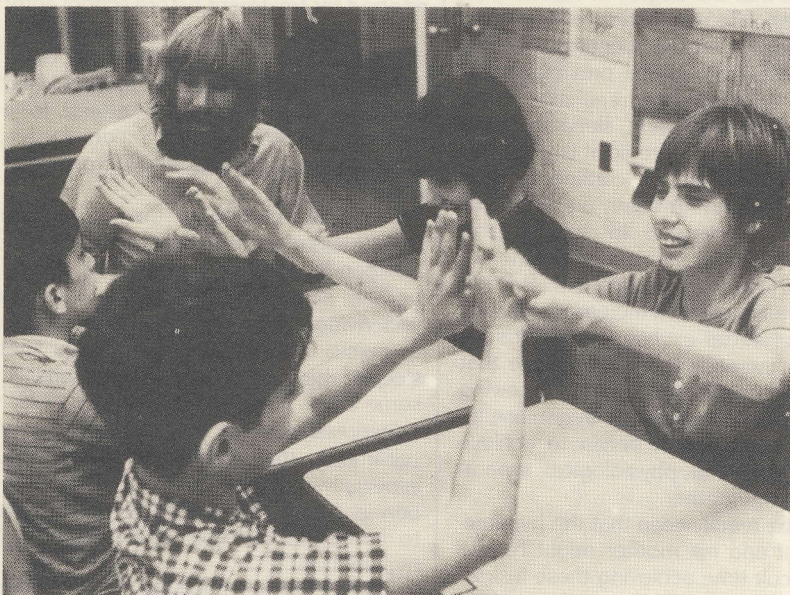
However, the medicines are not cures in the sense that, if the child takes them before a certain age, they will cause his or her problem to go away. What they do is help both parent and child to cope right now. The criterion should be "Will it help the child today", not: "Are there longterm benefits?". Parents should feel comfortable about using medication at all times and feel free to stop when they wish.

Drugs promise neither the passport to a brave new world nor the gateway to the inferno. Properly employed as a single component of a total treatment programme, they can be useful in realizing the goal of healthy development of children.<sup>14</sup>

The decision to use drug treatment depends on the commitment to diagnose and to monitor the response to treatment. It follows that observation of learning and behaviour should be made regularly and be reported to the prescribing doctor by parents and teachers.

The Connors Teacher Rating Scale appears to be the instrument of choice for providing feedback about behaviour from the schools to the doctor. Unfortunately a structured teacher rating scale for learning changes still needs to be developed.<sup>15</sup>

Individual titration of doses of stimulants should be mandatory in view of the wide range of the minimum effective dosage in hyperactive children. An absolutely essential condition for successful use of medication is the parents' full knowledge and consent.



The opportunities open to a child for interaction, self-care and rehabilitation give him a chance to perform a variety of functions that may enhance his self-esteem and thus improve his social interactions with adults and other children.

What is needed is increased intervention of a different kind. Hyperactivity does not disappear in adolescence. Instead it diminishes, but the adolescent is still noticeably more restless, distractable, impulsive and emotionally more liable than his peers.

Under-achievement, attentional difficulties, poor self esteem and depression, remain major problems. For the first time anti-social behaviour may become a major problem.

Parental consent depends on reassurance about the lack of longterm side effects. The effect of stimulants on growth has recently been the most controversial issue. Recent work has shown that Ritalin in doses of 20mg or less daily has no effect on growth, and that children taken off higher doses of medication show a remarkable growth rebound.

Finally one of the questions most often asked is whether treatment of HA with stimulants will lead to later adolescent drug abuse. In this regard a recent preliminary report on a ten year follow up of HA children is reassuring. The drug abuse of hallucinogens was virtually non-existent in the HA group and significantly less than in the control group. When comparing grown up HA males with their non HA brothers, there is evidence for more cigarette use, but not for more alcohol abuse.<sup>16, 17, 18, 19, 20</sup>

### Benefits of medication

There is an acquisition of more selective control of motor behaviour, improved visual motor co-ordination and improved steadiness.

One of the best done studies showed that certain deviant classroom behaviours, attention to task and points earned for good behaviour were significantly improved with Ritalin use.

Shortterm improvement in IQ test performances has been demonstrated consistently. The most positive response to stimulants was associated with organic background to HA in the child, positive parent-child relationship and the absence of serious psychiatric problems in the parent.<sup>21</sup>

30 - 50% of HA children experience an immediate and dramatic response in cognitive and behavioural symptoms and conversely the omission of a single dose results in a reappearance of the behaviour problems in full force. Moderate improvement occurs in 10 - 20%, some show no response, and 10% show a negative response.

Using a picture recognition task as a measure of cognitive behaviour and the Connors Teaching Rating Scale as measure of social behaviour, it was found that optimal social behaviour occurred at doses two to three times the dosage required for optimal cognitive behaviour.

Generally if medication is effective initially, it maintains benefit until at least late adolescence - little tolerance develops. Thus it is the severity of the symptoms and not the age of the child which is crucial in planning therapy.

No other available treatment offers the long term benefit of reduction of disturbing behavioral symptoms.<sup>22, 23</sup>

It was found that family diagnosis was important in the outcome of the medicated groups. A family diagnosis

rating was based on a five point scale with five indicating the most desired score. The following items were included:

- Stability in the home-relating to the number of moves made by the family in the child's lifetime.
- Marital relationship.
- Psychiatric illness of parents.
- Continuity and presence of mother or mother substitute.
- Present child rearing practices eg. over protection, excessive punishment or extreme inconsistencies.
- Level of anxiety present in the family interaction or general emotional climate of family.

The family diagnosis was not significantly related to the five year outcome for the non-stimulant treatment group, but there was a strong positive correlation to the use of stimulant medication in the fields of academic achievement,

absence of delinquency and emotional adjustment. Perhaps the stimulants assist in part by permitting the family factors to be effective.

In summary then, stimulant therapy effectively and with reasonable safety treats the primary HA symptoms of inappropriate overactivity, restlessness and inattention.

It does not, however, provide "brain food" for these children, nor does it appear to contribute significantly to emotional factors in life adjustment. It may however, permit other therapeutic factors, such as good family support, to more successfully operate to improve outcome.

Pragmatic clinicians find that with judicious use of medication, manipulation of school and home conditions, psychotherapy, careful continued follow-up and adjustments in the treatment regime, the hyperactive child can develop into a productive adult.<sup>24</sup> Without this level of care, the emerging evidence suggests a relentless downhill course. □

### References

- 1 Wolf 1969
- 2 Ambrose 1969
- 3 Sander 1962 1969
- 4 Bell 1968
- 5 Stewart plus Olds 1973
- 6 Zrull JP, MacDermott JF, Posanski E: *Hyperkinetic Syndrome. The role of Depression; Child Psychiatry and Human Development.* 1970 1 33-40.
- 7 Patterson GR, Jones R, Whittler J and Wright MA: *A behaviour modification technique for the Hyperactive Child - Behaviour Research and Therapy* 1965 2 217-226.
- 8 Douglas VA: *Stop, Look and Listen. The problem of sustained attention and impulsive control in hyperactive and normal children.* *Canadian Journal of behavioral Science* - 1972, 4, 259-282.
- 9 Steward MA: *Hyperactive Children.* *American Journal of Psychiatry* 1973 - 94, 577-585.
- 10 Eisenberg L: *The Management of the Hyperkinetic Child - Developmental Medicine and Child Neurology* - 1966 - 8 - 593-632.
- 11 Anderson CM and Plymate HB: *The Management of the Brain damaged adolescent - American Jnl of Orthopsychiatry* 1962, 32, 492-500.
- 12 Cantwell DP: *Psychiatric Illness in the Families of Hyperactive Children.* *Archives of General Psychiatry* 1972, 27, 414-417. Weis G, Minde R: *Studies on the Hyperactive child - VIII; Five year follow-up* *Archives of Gen. Psychiatry* 1971, 24, 409-414.
- 13 Anderson and Plymate 62: *The Management of the brain damaged adolescent.* *Amer. Jnl of Orthopsychiatry* 1962, 32, 492-500.
- 14 Morrison and Stewart. 1973: *The psychiatric states of the legal families of adopted HA children.* *Archives of Gen. Psychiatry* 1973, 28, 888-891.
- 15 Cantwell 1972: *Psychiatric illness in the Families of Hyperactive Children.*
- 16 *The office of Child Development - Assistant Secretary for Health and Scientific Affairs: Washington* 1971.
- 17 Safer DJ and Allen PN: *Hyperactive Children.* Baltimore. University Park Press 1976.
- 18 Safer D and Allen R: *Stimulant drug treatment of Hyperactive adolescents.* *Dis. Neur. Syst.* 36-8, 454-457 A.
- 19 Gross M: *Growth of Hyperkinetic Children, taking Methylphenidate, dextroamphetamine imipramine/desipramine.* *Pediatrics* 58, 423-431. 1976.
- 20 Hoffmann Engelhardt, Safer D and Allen R: *Side effects from longterm use of stimulants in children in Recent Advances in Childhood.*
- 21 *Psychopharmacology. Int. Jnl. of Ment. Health* 4; 105-118 1975 B.
- 22 Becht L, Lanford WS, Mackay M and Sum G: *Childhood chemotherapy and later drug abuse and growth curve; A follow-up study of 30 Adolescents.* *American Journal of Psychiatry* 1975, 132, 436-438.
- 23 Ballard J et al: *Cardiovascular responses of Hyperactive children to methylphenidate.* *Jnl. Amer. Med. Ass.* 236; 2870-2874, 1976.
- 24 Connors CK: *Recent drug studies with Hyperkinetic Children.* *Journal of Learning Disabilities* 1971, 4, 476-483.
- 25 Weiss G, Munde K: *Studies on the Hyperactive child, five year follow-up* *Arch. Gen. Psychiat.* 24; 409-414, 1971.
- 26 Riddle K, Rapoport JA: *A two year follow-up of 72 Hyperactive boys.* *JNL. Nerv. Ment. Dis.* 162 (2); 126-134, 1976.
- 27 O Malley JE and Eisenberg L: *The Hyperactive Syndrome - Seminars in Psychiatry* 1973, 5, 95-103.
- 28 Stewart MA and Old SW: *Raising a Hyperactive child.* New York. Harper throw. 1973.