Transcript of learning module Developmental delay: a guide for GPs
(Dur: 18' 52")

Contributors: Dianne Cottle and Mitch Blair

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Dianne: Hello I am Dr Dianne Cottle, a clinical editor at BMJ Learning. In this module we discuss developmental delay. Here to talk to us is Professor Mitch Blair, a consultant paediatrician, who teaches paediatrics and child health at Imperial College School of Medicine in London.

So, to start off with, could you explain what developmental delay is?

Mitch: Yes Dianne, developmental delay can be defined as a significant delay in a child’s different developmental domains. These are speech and language, locomotor and fine motor development, personal and social development, and activities of daily living. Although it is quite easy to describe children’s development in specific discrete domains, the reality is that often children will have delays in more than one.
Global developmental delay often refers to two or more of these domains being delayed for a child’s age.

Dianne: So how common is developmental delay?

Mitch: This varies, but it probably occurs in around 15% of children under the age of 5. It is estimated about half of children with developmental problems are detected before they begin school.

Dianne: So why is it so important to detect it early?

Mitch: Well early intervention is really essential for optimising developmental progress in the delayed child. That is much more likely to mean that, that child will lead a more typical life. It also means in the more severe cases that there is better adjustment. It gives parents the choice to make plans with future pregnancies, etc.

Dianne: Okay, so what are the main causes of developmental delay?

Mitch: I like to look at these in terms of a framework, which I find very helpful in clinical practice. That is to look at prenatal, perinatal, and postnatal causes. So if we look at prenatal causes, that might be a genetic defect such as Down syndrome, or fragile x syndrome.
If we look at perinatal, that would be the source of problems that might occur soon after birth, or during the delivery process. Often in cases of extreme prematurity. Then postnatally that might be the issues related to environment, poor social environment stimulation. Or possible medical illness in the child postnatally.

Dianne: So let's take a number of case examples to illustrate what GPs should be looking out for. Firstly the case of Dean, a 2 year old boy who was brought to see you by his mother, because she is concerned that he says very few words, and he appears to be getting very frustrated and angry. What should the GP do next?

Mitch: Well the most important thing here is to take a history, a careful history using the framework that I have just described. So looking prenatally, is there a family history here of speech and language delay? Are there some genetic tendencies for late speech? Which is very common.

In the perinatal and postnatal period, have there been any medications? During prematurity any high risk factors, such as illness, ear infections? In this case, in Dean’s case, one of the commonest causes is poor exposure to language in the home environment. That would be very important for the GP to be aware of. He or she is very likely to be aware of that.

In some cases, if there is more than one language spoken in the family, this may cause some mild delay, but usually children catch up by school age.
Dianne: Are there any other causes that you might want to consider in a case such as this?

Mitch: You have to think of the less common causes, but very important ones such as a general learning disability, or perhaps even a problem with the anatomical structures controlling speech. Such as the dentition, or the jaw, or the swallowing mechanisms.

There may be a rarer, less common condition such as a specific processing impairment. Or autistic spectrum disorders, which manifest as a group of disorders, which involve impaired communication, as well as impaired social interaction and cognitive skills. So those are all the things that one needs to be thinking about.

Dianne: So in situations like this where a parent brings a child in because they are concerned about their speech or their language development, what are the warning signs that GPs should be particularly aware of, and which may necessitate further referral to a specialist?

Mitch: Well Dianne you could divide this up into the very early signs, in infancy in the first year. So perhaps at 3 or 4 months, not responding clearly to loud sounds, or babbling. At 7 months not having much variation in babble, that is quite worrying. A bit later, at a year, not using any single words. At about 2 years, not being able to speak at least 50 words by this stage, or using two word phrases.
Those would be some of the things to be looking out for at key ages.

Dianne: Okay, so could you briefly take us through what treatments are available?

Mitch: Well the first thing to do is exclude remediable conditions such as hearing loss. So the first thing to do is to investigate hearing and make sure that hearing is normal through the local audiology service. Then to evaluate more closely, using the specialists in the field who are speech and language therapists.

Speech and language therapists will often suggest to parents a number of strategies. Including increasing the language richness in the family, through talking, singing, reading. Reinforcing speech and language throughout the day, getting treatment of course for middle ear infections. That is where a GP would be absolutely critical, in making sure that the child is then seen soon after an ear infection, to make sure that hearing is normal. And specific programmes of intervention, tailored for the child by the speech and language therapist.

Dianne: Moving onto our next case example, Daniel, a 19 month old boy who is brought in to you by his mother because he is not walking. What are your first thoughts about this presentation?
Mitch: Okay, again Diane I would like to use this framework, which I find very helpful in practice. Which is looking prenatally for any potential genetic causes of late walking. There is sometimes and very often in fact a family history of delayed walking, with otherwise normal developments at a later age.

Children who have lacked considerable stimulation at young ages, often in quite unusual circumstances, institutionalised circumstances. Or perhaps have been ill and institutionalised in hospital for many months of their infancy will have delayed walking. You would be worried about, in Daniel's case the coordination of movements and whether there is any particular difficulties in coordinating limb movements. That might suggest things such as cerebral palsy, or myopathy, a disease to the muscle for example.

So in Daniel's case I would be looking at prenatal, perinatal, and postnatal causes, and trying to focus on brain, muscle, and bone impairments.

Dianne: So are there any specific causes that GPs should be aware of, particularly regarding the brain, muscle, and bone in children like this?

Mitch: Well let's take each one of those in turn. If we look at the brain here, obviously the most important cause of abnormal walking is cerebral palsy. This is a non-progressive condition that leads to upper motor neurone damage, and therefore spasticity and a tightening up of the muscles due to nerve damage. Another would be ataxia, where we are looking at cerebellar function in the brain more specifically.
If we turn to muscle, we would be worried about the myopathies, the muscular dystrophies, and we would need to screen for those. Perhaps with some blood tests looking at muscle enzyme levels.

If we look at bone, then of course one of the most important by far is looking at hip dysplasia, and making sure that there is no evidence of rickets. Which can be a cause of delayed walking in those who are deficient in vitamin D.

Some of the other aspects to think about would be, whether the child is delayed for more general cognitive reasons. So often children who have learning disabilities will have delayed walking as well. Then we mustn’t forget problems with other domains such as vision. Where a child with blindness, significant visual impairment will often have developmental delays in other domains. Such as walking and also the use of their hands.

Dianne: So what are the warning signs GPs need to look out for in children who have gross motor and fine motor delays?

Mitch: Okay let’s look at the first few months of life. A child who is not reaching or grasping, or holding objects at 3 or 4 months. Or who does not support his or her head well, doesn’t bring objects to his or her mouth, does not push down with the legs when his or her feet are placed on a firm surface by about 4 months. These would be very worrying in the first few months.

A little later you might be worried about a 7 month old who has stiff, or tight, or floppy muscles. Who is flopping their head when pulled into a sitting position, or reaching with one hand only, which would
suggest asymmetry. Certainly a child who is not sitting up at this stage without help would be worrying.

At about a year, you would be concerned about children who are not standing unsupported. Who are dragging on one side of their body, and at about 2 years you would be worried about a child who is not walking at all. Who couldn’t push a wheeled toy such as a trolley or a tricycle.

Dianne: Okay so what treatments are there available for these children?

Mitch: Well the real experts on this are physiotherapists, and physiotherapists and occupational therapists are the key treatment providers for children with these types of delays. They will set up programmes, which will help children with motor difficulties to attain their skills using specific exercises and therapy.

Dianne: So moving on to our next case example, Tamara is a 28 month old who is brought to your attention by her father. Because he is concerned she doesn’t appear to mix well with family or friends. Where would you go from here?

Mitch: This is a very common referral, and Tamara wouldn’t be that unusual in my practice. I get a lot of referrals from GPs with this type of problem. So needing to think very carefully here about early life course events, particularly around difficulties with attachment.
Any cognitive delays, any learning delays in the first few months of life.

Of course one of the things that parents have heard about and read about is autism, and autistic spectrum disorders. This is a group of so called pervasive developmental disorders affecting social and emotional development and communication. These can range from quite mild conditions, to extreme conditions. With some of the more severe conditions being autism, and Rett syndrome, which is a regressive condition of childhood.

Perhaps at the slightly milder end, Asperger’s syndrome, where a child is actually functioning very well from a cognitive point of view, but has very specific social and communication difficulties.

Dianne: So what are some of the warning signs that should lead a GP to be concerned that a child has delays in their social or emotional development?

Mitch: Well at about 3 months a child who is not smiling or paying attention to new faces, or perhaps even seems frightened by them. At about 7 months of age, a child who is showing very little affection for their parents, or care givers, or very little enjoyment around people. Certainly not showing very much interest in games such as peek-a-boo. These are the things to look out for by about 7 or 8 months.

At about a year most children are showing pretty good back and forth gestures, and attempts to communicate. So sharing sounds, smiles, and facial expressions, waving, reaching, or pointing, would be the sorts of things to look out for by 9 months to a year.
Other features to watch out for, certainly if you are worried about autism, or autistic spectrum disorder, are repetitive movements. Such as hand flapping, and turning round and round, a lack of eye contact or a lack of empathy, for example if another child is hurt.

Dianne: Are there any types of treatment that are available for these children who have got social or emotional delays?

Mitch: There are a number of different programs that exist for children with autism. The speech and language therapists in your area, and the community paediatricians particularly have strong specialist interests in this aspect. Play therapy and portage are often very helpful.

Dianne: Okay, so our next case example, Mohammed, is a 4 year old boy who presents with delays in his learning skills. His parents have noticed that he is falling behind other children at nursery. What is your thinking if a child presents like this?

Mitch: Again this is not an uncommon presentation to the GP, or indeed to the paediatrician. One of the first things to be thinking about is again using this framework of prenatal, perinatal, and postnatal. Thinking about whether this is a family feature, and there are other members of the family who have delays like this in learning, counting, drawing skills, writing, etc. More generalised learning difficulties, but with
otherwise normal motor development, and perhaps slightly slower speech.

So genetic conditions, exposures during pregnancies, such as alcohol, or toxins before birth. Significant medical problems soon after birth, such as meningitis. Or subsequently, in the postnatal period, a harmful environment. Particularly a poor learning environment in the home will present like this, but also so will children who are exposed to toxic chemicals such as lead in large amounts. Neglect in infancy or childhood can present like this, and so can the pervasive developmental disorders that I spoke of earlier.

Dianne: So in a child who has some delay in learning skills and cognitive delays, what are the warning signs in this situation that GPs should be aware of?

Mitch: So at about a year, a child who is not really very curious, who is not searching for objects that are hidden while he or she is watching. Does not use gestures such as waving, or does not point to objects or pictures. All of these things at about a year, you would be very concerned that there was something unusual going on with the development.

At about 2, if they don’t really know the function of common objects, such as a hairbrush, a telephone, or a spoon, that would worry you. If they don’t follow simple instructions or imitate actions or words you would be very concerned that there may be some underlying cognitive delays. So those are some of the warning signs.
Dianne: What types of treatment are available for children with cognitive delays?

Mitch: Mostly in this type of field, we turn to our special educational support staff. The educational psychologists and special educational needs coordinators, who put into place educational interventions.

Dianne: When and how would you follow children up who you have identified that they have got a developmental delay?

Mitch: GPs are in a really good position to get to know a child and family over time. It is this longitudinal and continuous surveillance which is favoured now, and likely to be much more effective than simple cross sectional snapshot views of development that were common in the past. The GP will know only too well the social, environmental, and biological factors, and some of the specific circumstances with that family, which are likely to affect a child’s development.

Dianne: So what are the current recommendations for monitoring children’s development?

Mitch: The Healthy Child programme is the key child health promotion schedule now for England and Wales. This recommends reviews,
antenatally, at birth, 6 to 8 weeks, before a year of age, 2 years of age and preschool as a minimum. Health visitors lead the programme, and GPs need to make sure they are communicating any developmental concerns to the family’s health visitor team.

Dianne: Any final comments?

Mitch: Well I think there are three take home messages here. Although many children have mild developmental delays, and most of these do resolve on their own, be very careful not to falsely reassure. The second point here is that remember that there are others out there with a lot of experience of the child, who see that child on a day to day basis apart from the parents. So do ask you health visiting team, or your children’s centre staff to help if you are worried about a child’s development.

Thirdly refer on if in doubt to a more specialised team. If there is one area of development that you are worried about, many therapists will now accept referrals from GPs directly, speech therapists, physiotherapists. If two or more areas of development are problematic for you, then refer on to the community paediatrician who can assess the child with the child development team locally.

Dianne: Many thanks to Professor Mitch Blair. For further reading and useful resources, follow the links on the next page.

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