



Raising kids can be challenging at times, but the rewards of seeing your child succeed and thrive are priceless. Whether they're in the frustrating 4s or the problematic 7s, we love our kids and want the best for them. The early years of life are the most important in establishing the fundamentals of life, such as your child's psychological wellbeing and essential learning skills. Binocular vision and the central auditory system is the first to begin developing after birth, followed by habitual ways of responding, language, emotional control, symbol recognition, peer social skills and relative quantifying. Any or all of these processes may be delayed or inhibited by negative environmental factors such as infections and poor nutrition. What if there was a way to give your child an edge, to help them see better, think clearer, and feel stronger?

### Early Childhood Development



The early years of life are the most influential on the future of your personality and intelligence. The many millions of neurons present at birth reach out for each other and lay down the foundations of your working mind. Three body systems have been identified as the most significant in early development; intelligence, immunity, and vision.

### See Better – Vision



It is not uncommon for parents to take their kids along to the doctor because they think they have an attention problem, when really their vision is impaired. Vision and

learning are closely integrated. Good vision in early childhood is essential for healthy development and learning. Healthy vision can be a strong indicator of future successes. Memory, concentration and attention are all modulated with visual input, which begins with incoming light being focused onto the retina.

The photoreceptors of the retina transmit incoming visual information to the brain, via the optic nerve. These processes are dependent on proper nutrients to help support the neural tissue and signal conduction. Omega-3 fatty acids DHA and EPA are highly concentrated in the eye to allow for membrane fluidity of these highly active cells. This allows a greater capacity for fast and accurate transmission of visual stimuli to the brain, enhancing visual acuity. Intake of omega-3 has been associated with enhanced visual transmission and neural development in children [2].

### Think Clearer – Intelligence



Brain development is most crucial in the first 7 years of life. During this time the brain is still making vital connections between different areas of the brain, forming intellectual and emotional IQ. High childhood IQ has been associated with a higher cognitive ability throughout life up until the later years of life [1]. Learning, concentration, memory, attention, language and social development are the key areas that children may have problems with.

Learning involves three main processes:

- **Input:** involves the sensory systems. Problems such as subtle hearing and visual impairments may go unnoticed for several years, which may dramatically affect development.
- **Processing:** including memory of the input, is the way the brain interprets the incoming information. Difficulties in the storing of memory can result in processing weakness.
- **Output:** relies on higher order thinking to plan and execute the function. As they say, practice makes perfect in terms of executive functions, therefore a loss



of self-confidence may result in a reluctance to participate.

Many factors can negatively impact the neural development of your child. Of those that may be modifiable, ensuring your child receives the right nutrients is essential. Children can have an irregular diet at times, so it important for you to do the thinking for them.

### Feel Stronger – Immunity



Being exposed to germs in the sandpit and playing with other kids in the classroom can be stressful on your child's immune system. The spread of infection amongst children is the highest in any age group for these reasons. But is it worthwhile separating your child from other children when social interaction is so important in the early years? If your child is not getting the right nutrients in their diet, then it may very well be reasonable to consider such a drastic move. Middle ear infections pose a great risk to normal child development, which may result in hearing and learning difficulties. Poor nutrition is a major risk factor for developing middle ear infections.

Your child's immune system is less mature and responsive than that of an adult. It takes some time for the immune system to develop as it must encounter infectious agents first in order to produce memory cells. For this reason, many believe that it is actually crucial to allow your children to be exposed to infections in the early years, such as in the sandpit. However, this may become a dangerous exercise if your child does not receive adequate nutrition. During breastfeeding, antibodies are transferred from mother to fetus via the breast milk. The nutrient-rich sticky yellow breast milk produced at the end of pregnancy is called colostrum, which is ideal for children. After breastfeeding is ceased, the protection from these antibodies decreases over time,

as antibodies have a limited lifespan. This may leave your child vulnerable to infection.

### PM IQShield:

#### *See better, think clearer, feel stronger*

Packaged into delicious chewable (fish shape) capsules that burst fruity flavor and milky aroma into your mouth, PM IQShield is formulated for the development of neural, eye system and immune health. It has an unique combination of Omega 3 fatty acids, Colostrum, essential vitamins and minerals.



Fish Oil – Natural	500mg
Equiv. EPA	90mg
Equiv. DHA	60mg
Colostrum Powder – Bovine	150mg
Thiamine Nitrate (Vit B1)	500mcg
Riboflavin (Vit B2)	500mcg
Cyanocobalamin (Vit B12)	1mcg
Zinc Amino Acid Chelate	10mg
Equiv. Zinc	2mg
Potassium Iodide	78.5mcg
Equiv. Iodine	60mcg

### Benefits:

- For your child's neural, eye and immune health development
- For concentration, memory, learning (IQ) and Emotional intelligence (EQ)
- Supports/promotes/enhances the immune system and digestive health
- For the improvement of metabolism, energy levels and general wellbeing
- May assist in the management of allergies, anxiety, mood swings and stress disorders
- Prevention/treatment of vitamins (B1, B2, B12) and/or minerals (Iodine and Zinc) nutritional deficiencies



## Ingredients for Neural, Immune, and Eye Health

**Colostrum:** is the first milk after birth that is rich in growth and immune factors. Mammals supply their newborn with antibodies, immunocytes and humoral constituents, via breastfeeding. This "borrowed immunity" is a form of passive immunisation, protecting the newborn against environmental pathogens until it establishes its own immunity. However, when a newborn stops breastfeeding, usually at around 6 months, they lack this immune benefit. Alternative sources of colostrum may help to prolong the benefits of passive immunization for your child [1]. Colostrum is efficacious in the prophylaxis and treatment of various infectious diseases, such as diarrhoeal diseases caused by pathogens like E. coli and rotavirus [3]. Not only does colostrum contain beneficial nutrients such as antibodies, lactose and glycoproteins, colostrum contains lactoferrin. Lactoferrin is a naturally occurring immune modulator and powerful antioxidant, shown to have potent antibacterial, antifungal and antiviral properties [4].

**Fish Oil: Omega-3 (DHA and EPA):** Fish oil is a rich source of omega-3 oils, including essential DHA and EPA fatty acids, critical components of brain and eye tissue. DHA and EPA are crucial in the first few years of life as the neurological systems and functioning of the brain are developing at a rapid rate. A childhood deficiency in omega-3 can cause problems with learning, memory, vision, and behaviour.

The internal actions of DHA and EPA provide a favourable environment for neuronal growth and maintenance. DHA and EPA provide internal support to neurons, have antioxidant properties, and also protect against harmful inflammation. The brain is made of mostly fat, of which 10-20% of that fat is made up of DHA. This gives neurons a more dynamic structure and membrane fluidity, for more efficient neurotransmission [5]. The well known cardiovascular benefits of DHA and EPA also translate to positive vascular effects within the brain. The vasoactive effect of DHA and EPA increase blood flow to the brain and facilitate more glucose getting to neurons across the blood brain barrier. New research also shows that omega-3 may also be significantly beneficial to the immune system [6].

During the time where the brain is developing and learning new tasks at such an incredible rate, it is imperative that kids get enough DHA and EPA. At this

most sensitive time, clinical studies have shown that DHA and EPA supplementation can have a significant impact on neural, cognitive and visual development in infants and children. A recent extensive overview analyzing all of the available studies, including randomized clinical trials and meta-analysis, concluded that supplementation with DHA and EPA during pregnancy, breastfeeding and infancy enhance neuromotor development, visual development, and mental performance [7]. Interestingly, supplementation with DHA and EPA in children with developmental disorders has shown significant improvements in reading, spelling, and behavior, comparable to those using first-line pharmaceuticals such as methylphenidate [8].

**Zinc:** plays an important role in immune function and the modulation of host resistance to infectious agents, reducing the risk, severity and duration of infectious diseases [9, 10]. It is common for apparently healthy, full-term, breastfed children to experience zinc deficiency. Zinc deficiency can impair the cellular mediators of innate immunity such as phagocytes and natural killer cells, preventing the generation of oxidative burst against pathogens. This is obvious in reduced maternal intake of zinc during pregnancy, which is associated with increased asthma and wheezing outcomes in children up to the age of 5 years [11]. Ensuring your child has adequate zinc is important in fighting infection.

Zinc is important for basic metabolic roles in metalloenzymes and transcription factors (cell function and production). It is also an important immunoregulatory agent, growth cofactor, and cytoprotectant with antioxidant, anti-apoptotic, and anti-inflammatory roles [12]. Adequate intakes of zinc have been known to ameliorate symptoms and shorten the duration of respiratory tract infections including the common cold. Zinc has been noted in reducing the incidence and improving the outcome of pneumonia, malaria, and diarrhoeal infections, especially in children [9, 13]. Zinc has also demonstrated a direct anti-viral effect [13]. Furthermore, zinc in combination with fish oil has been found to modulate T-cell (immune cell) responses [11].

The benefits of zinc on the nervous system are also well known. More specifically for children, zinc has been shown to be important for neurological development. Zinc may enhance memory, attention, and motor skills, by actively supporting neurogenesis and synaptogenesis in the developing years [14].



**Iodine:** Like zinc, it is common for children to experience iodine deficiency [15]. Micronutrients like iodine are required for immune system integrity and function. Iodine is an important mineral for a child's metabolism and brain function. The immune system, as other bodily systems, relies on the body's metabolism to assist in maintaining health. Children with even mild deficiencies of iodine are more vulnerable to develop frequent and more severe forms of common day-to-day infections, triggering an unhealthy cycle of poor nutrition and recurrent illness [10]. Iodine is also essential for brain development, as iodine deficiency may result in severe mental retardation and learning difficulties in children.

**Vitamins B1, B2, B12:** The full genetic potential of a child for physical growth, health and mental development may be compromised due to dietary deficiencies [10], with considerable evidence showing the close relationship between cellular immunity and vitamins.

Vitamins are important in maintaining and promoting cellular immunity [16]. For instance, a deficiency in vitamin B12 is known to cause a decline in CD4 (immune cell) counts and affect viral progression [13]. Large clinical trials with B group vitamins have found them to be beneficial in homocysteine-lowering therapy. Hyperhomocysteinemia is associated with cognitive impairment, depression and chronic immune-mediated disorders. Therefore it is important that children receive enough vitamin B1, B2 and B12 [17].

Supplementation with B group vitamins appears to benefit the body's ability to generate a pathogen-specific immune response, and in particular diarrheal disease-related outcomes [18]. Correction of vitamin deficiencies has been shown to reduce symptoms and the likelihood of disease manifestation [13]. Vitamin B1, B2 and B12 are specifically included in IQShield for your child's neural, visual and immune health.

### Quality for your child

The ingredients of PM IQShield are carefully selected from the latest clinical research to be present at doses that best support your child's health. All the raw materials are sourced from the best available in the world. PM IQShield is regulated as therapeutic (medicinal) goods in Australia and complies with all the

rigid regulations by the Australian Therapeutic Goods Administration (TGA), one of the strictest health authorities in the world. It undergoes the Good Manufacturing Process (GMP), from start to finish of production, before released to the market. Post market surveillance requirements ensure that the product is looked after and controlled after it leaves the manufacturing facility.

### Bringing it Together

Early childhood represents arguably the most influential period on cognitive and neurological, visual and immune development. During this period, essential nutrients are crucial. In the information age, it can be difficult to find clear answers on what's best for you child's health. We've done the work for you. PM IQShield contains scientifically formulated ingredients that are proven to help your child see better, think clearer, and feel stronger.

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