



The 8 Step (10 minute) Chiropractic Examination of an Infant.

The clinical value of a comprehensive patient history and thorough physical examination must never be underestimated. However, an initial consultation with the child is far more than just a clinical experience and an information-gathering process. Your ability to connect with the patient and the parents plays a significant role in the outcome achieved with your paediatric patient. Your ability to examine the infant in a smooth, professional and time efficient manner is often essential to your ability to achieve the very best clinical outcome with that infant. This article details a procedure we have used with infants in our practice for many years. We hope this helps you with your assessment of children. 😊

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Be Confident!

The examining of any child, regardless of their age, must be a procedure that not only you feel comfortable with but also, just as importantly, you must be *perceived by the parents* as being comfortable with. Examining the baby is a procedure that you must perform as if you have



done it *1000 times before*. For this reason, prior to the examination, I would encourage you to nurse the baby for a few moments. During the history taking, the baby may be in a capsule or a pram. Once the history is completed and you are ready to conduct the examination, it can be a wonderful way to connect with the child *and the parents*, to physically get the baby out of the capsule or pram and spend a few moments holding the child. This will perhaps begin the bonding process between you and the parent, more so than between you and the child, and will allow you to demonstrate to the parent that you *are* comfortable with babies as well as emphasising your affinity with children of this age group.

The contoured pillow.

Once you have held the baby for a short time, place the child on the examination table. A very handy way of assessing a baby is to use a contoured pillow. We use these extensively in our practice, as they provide a safe and secure platform while we are assessing a baby. The contoured pillow is a comfortable surface for the baby and is more difficult for them to roll off. It allows for easy examination (and treatment) of the child and is very helpful if you are assessing other members of the family after you have examined the baby, as you simply lift the baby and the pillow up and place them together on the floor. The baby is then safe, secure and out of the way.

Be thorough, but focus your examination on the direction your findings takes you.

In the chiropractic examination of the infant, the following areas may need to be addressed.

- neurological examination
- orthopaedic examination
- cranial examination
- spinal examination.

Please understand that we are in no way advocating that we need to become as proficient as paediatricians or neurologists in our assessment of infants. However, in order to provide the very best care possible for each and every child we see, we need to be *thorough* when we examine the child. Also please understand that we



do not go through *every* cranial nerve examination, *every* primitive reflex, *every* orthopaedic test, every cranial assessment, with *every* child who presents to my practice. But we do have the knowledge and the skill to do so *if the history and presentation suggest that it is necessary*. That is the purpose of this article. To help chiropractors understand that it doesn't necessarily take a lot of time to *comprehensively* examine an infant, so that the very best clinical outcome is achieved for every patient that you see.

Our examination procedure for babies rarely follows a rigid, structured approach, where we first perform a neurological examination, followed by an orthopaedic, cranial then spinal examination. The system we use incorporates all aspects of the four listed clinically essential areas, performed in a manner where the emphasis is on collecting all of the required *relevant* information in a simple, fluid and time-efficient fashion. The emphasis here is on the word 'relevant'. A detailed history should point you in the direction you should be taking with the child in front of you. Then as you perform your examination, a clearer clinical picture should gradually evolve, thus further focussing your examination on the more clinically relevant

procedures you need to perform. In our online paediatric program *Elevate Paediatrics*. (www.elevatepaediatrics.com.au) we go through a detailed discussion, with extensive demonstration videos of each of these procedures. In this article, our goal is to present this approach in outline form as one simple, structured examination procedure for the baby. This illustrates to the paediatric chiropractor clearly that an efficient and comprehensive examination of the baby is not only achievable *but also essential* in any chiropractic practice that sees children as patients.

The simple 8 step comprehensive examination process

Following this step-by-step procedure will enable you to examine the infant comprehensively in a structured, professional and time-efficient manner.

Step One - Prior to the examination: 1 minute

- as we have already discussed, you should interact with the child to begin the bonding process – *Connect with the child, and the parents*
- have the parent undress the baby down to their nappy – *Examining through 3 or 4 layers is possible, but you may miss something important*
- place the child supine on the examination couch (contoured pillow if you chose) – *Make sure the child is safe and comfortable*

Step Two – Observe with the child supine: 30 seconds

- tone – *Is the child floppy? (Potential indicator of hypotonia)*
- torsional posture – *Is the child lying in a 'C-curve'? May indicate the presence of dural tension*
- facial symmetry, fullness and movement - *Cranial Nerve 7*
- orbits of the eyes, symmetry of the nostrils, shape of the nose and glabella
- jaw and mouth symmetry
- symmetry of the frontal bone
- depression of the greater wing of the sphenoid
- skull symmetry – *The previous 5 points are all to check for potential cranial issues. What you observe can give you important clues as to the cranial issues which may be present.*
- quality and strength of cry – *Cranial Nerves 9 and 10*
- strength and symmetry of dummy sucking - *Cranial Nerves 5,7,9,10,11 and 12*



- response when gag reflex is elicited, (you would only perform this if you have *specific* concerns) - *Cranial Nerves 9 and 10*
- response when clap test is performed - *Cranial Nerve 8*
- response when child's nostrils are pinched - *Cranial Nerve 12*

Step Three - Initial palpation: 30 seconds

- tone – *again looking for any evidence of hypotonia*
- anterior and posterior fontanelles – *open or closed and is this within normal age limits?*
- sutures – *looking for asymmetry or ridging*
- cranial vault symmetry - *looking for asymmetry, evidence of which may indicate potential cranial issues or plagiocephaly*
- assess suck (using finger cot) – *Further assesses Cranial Nerves 5,7,9,10,11 and 12, as well as beginning your cranial examination*

Step Four - Supine examination: 2 minutes

- rooting reflex – *Primitive reflex –(an assessment of the primitive reflexes provides you with important information related to not only the integrity of the brain stem and spinal cord but also their degree of maturity)*
- sucking reflex - *Primitive reflex*
- knee jerk reflex – *Muscle spindle reflex – depending on findings may indicate either upper or lower motor neuron disorder*
- ankle jerk reflex - *Muscle spindle reflex*
- biceps reflex - *Muscle spindle reflex*
- triceps reflex - *Muscle spindle reflex*
- plantar reflex - *Muscle spindle reflex*
- palmer grasp reflex - *Primitive reflex*
- plantar grasp reflex - *Primitive reflex*
- Ortolani's test - *Orthopaedic test for hip - may indicate CHD*
- Barlow's test - *Orthopaedic test for hip - may indicate CHD*

- leg length – *may indicate CHD, or other biomechanical issues*
- tonic labyrinthine reflex - *Primitive reflex*
- Moro reflex - *Primitive reflex*
- asymmetric tonic neck reflex - *Primitive reflex*
- ‘pull to sit’ test - *Primitive reflex*



Step Five – Examinations to perform in the process of moving the child into the prone position: 2 Minutes

- pupil when penlight is shined into it - *Cranial Nerve 2*
- response when ‘doll’s eye’ test with penlight is performed - *Cranial Nerve 3,4 and 6*
- horizontal suspension reflex - *Primitive reflex*
- Galant reflex - *Primitive reflex*
- vertical suspension reflex - *Primitive reflex*
- placing reflex - *Primitive reflex*
- walking reflex - *Primitive reflex*
- positive support reflex (age related) - *Postural Reflex*
- Landau reflex (age related) - *Postural Reflex*
- parachute reflex (age related) - *Postural Reflex*



Step Six - Prone examination: 1 minute

- leg length - *may indicate CHD, or other biomechanical issues*
- squeeze buttocks - *identifying a potential sacral subluxation - should the gluteal crease deviate to one side, this may indicate an anterior inferior subluxation of the sacrum on that side*
- symmetry of the skinfolds - *may indicate CHD*
- grasp legs and motion palpate: - *chiropractic spinal examination (obviously a very important part of the examination)*
 - lumbosacral region
 - lumbar spine
 - lower thoracic spine
 - sacrum

- sacroiliac joints.

Step Seven - Sitting examination: 1 minute

- lateral propping (age related) - *Postural Reflex*
- posterior propping (age related) - *Postural Reflex*
- motion palpate: - *chiropractic spinal examination*
 - lumbar and lower thoracic region (alternate procedure to prone motion palpation)
 - mid to upper thoracic spine
 - C2 to approximately T2/T3
 - upper cervical complex:

Step Eight - Cranial examination – Depending on your findings thus far will determine how comprehensive your cranial examination needs to be – usually under 2 minutes (but can be as long as 10 minutes depending on the infant)

- examine for dural tension
- evaluate cranial base mobility in flexion and extension
- evaluate for laterality or torque at the cranial base
- examine the sutures more extensively.



The purpose of this 8 step examination procedure is to provide you with a structured system that allows for the integration of all relevant clinical data in a methodical and organised format. This will not only facilitate a more efficient means of collecting relevant clinical information but also, when performed well, add to the parents' perception of your clinical confidence and competence with their child. Thus, this will continue to underscore your role as their family doctor.

We hope this helps you with your paediatric assessment protocol.

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