

**PR-P 001: Baby sleep (or lack of). Research findings for normal 0-12 month olds.**

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Hello! Welcome to the Practical Research Parenting podcast. I'm Nicky Weeks. Since this is the first podcast, I should tell you bit about myself. Half way through last year, 2014, I completed my PhD and Masters combined in Organisational Psychology. What got me into Organisational Psychology is, basically, I am interested in how the structure of organisations, or families, or schools, promote the motivation, or demotivation, of their members. So that is what really interests me; what makes people tick. I've also done a fair bit of research into decision making. That's what my PhD thesis was on, so, a *fair bit* of research there. I'm also a mum. I have two lovely kids. I have a daughter who is 7 months and a son who is 2 and a half years old (almost 2 and a half), and I'm loving it. Loving being a mum! And I thought "there are a lot of very interesting things going on as kids are growing up", so I've got into researching child development and that's what I am going to share with you through this podcast. So, basically, I will be researching topics that are of interest to me, so if you have children who were born since about 2011, most probably there will be topics that are of interest to you as well. Today's topic is going to be on baby sleep. So if your kids are beyond baby age you may want to skip to the next one, but there should still be topics that are of interest to you coming up, so please don't leave altogether. And if you do have a baby, or are planning on having a baby, or are just interested in babies, this may well interest you.

OK, so let's dive right in. I'll give you an outline of what today's podcast is going to be about. Basically, I want to give you realistic expectations of what to expect, in terms of baby sleep, in the first year. So the first topic I am going to look at is the body clock. Second thing is night wakings and how often they happen. Third thing is self settling, so, how often they self settle back to sleep after waking up. I also came across an interesting factoid along the way. So I will share that with you. Finally, I will provide some take home messages including ways to prepare yourself, and some steps you can take to decrease night wakings and improving self-settling skills.

So, body clock to start off with. So your body clock is basically your... well... it's your body's clock, your body's way of telling you when it is time to sleep and when it is time to be awake. It is your body clock that throws things out when you travel time zones because your body tells you it is time to sleep when it is no longer time to sleep, and that it is time to be awake when it is now time to sleep in the new time zone. So your body clock is what makes you get tired when it is time that you usually sleep and that sort of thing. So this research on the body clock is based on a review by Davis et al in 2004 (<http://www.jpedhc.org/article/S0891-5245%2803%2900149-4/fulltext>). If you want any of the full references please do visit the show notes. The show notes will include all of the references, key points, as well as any links that I mention. There will also be a link to the full transcript (and here you are!). So to get all that you go to [www.practicalresearchparenting.com/babysleep](http://www.practicalresearchparenting.com/babysleep). So that is /babysleep for this episode.

So, babies' body clock emerge around 10-12 weeks. So what does that mean? That means that in the first 10-12 weeks don't expect to see too much of a pattern in terms of when your baby sleeps and wakes. Any attempts to form any sort of routine are likely to not really work in the first 10-12 weeks. I guess there is a chance that it might speed up the development of their body clock but I'm not sure about that, and I'm doubtful that you would be able to get a baby to sleep at certain times when they're that young anyway. So yeah, routines, I think, in the first 10-12 weeks are likely to fail. But it also means that noise and light in the first 10-12 weeks are unlikely to affect their sleep that much, they certainly do after that, but in the first 10-12 weeks it is really the milk intake that regulates when they sleep and when they wake. So noise and light, it means that if you are a party animal, you can be a party animal for 10-12 weeks more, but probably no more than that, sorry. So yeah, you can continue to go out with your baby and the noise and light shouldn't stop them from sleeping in the first 10-12 weeks, but beyond that, and when their body clock is starting to develop, you will want to maintain, I guess, more natural lighting and noise conditions.

So after the 10-12 weeks, this is when you will begin to gain some predictability around when they sleep. Their body clocks are set by the environment. So sleepy time is set by dark, quiet, low activity conditions, which is why it is often recommended that these conditions are put into their night time bed routine. And I think this is



probably especially important when the body clock is getting established, so when they are young, in the first year, and around that 10-12 weeks it is probably particularly important that you look after the natural lighting and noise conditions when they are going to sleep.

Interestingly, body clocks actually naturally run on a 25-hour cycle, unless they are synchronised by these things like the light and that sort of thing. So if you put adults in a cave they're also going to go out of wack by an hour or so, and it won't be that long before they're sleeping during the day and waking at night if they're not exposed to natural light and that sort of thing. So a very natural way, of course, of getting your baby's body clock to sync is to make lighting and noise conditions as natural as possible, so taking them out in the morning, so they see the sun, and not using too many artificial lights once it gets dark. Of course this becomes more difficult in countries where it is light all day or dark all day and I guess mums in those conditions learn to get around it and set their babies' body clocks. I guess it becomes even more important to pay attention to these sorts of things there. I would be interested in comments if you are from one of those countries or you have lived there with a baby. It would be very interesting to know what you do.

Yeah, so regular meals and daytime naps can also help. I didn't look into exactly how these work, but I suspect it is similar in terms of your body learns to expect to eat at certain times when you usually have meals and not at other times, so in a way you are setting your child's hunger to some extent. Obviously there is a large extent that is also determined by how much they've eaten and how long it has been. And that is another thing that does regulate sleep as well. It's not only your body clock, it's also how long it has been since you last slept, and how well you slept, and that sort of thing. As you probably know, as a Mum, because as a Mum you'll probably often want to sleep when it is not usually time to sleep, and that's because it has been a while and you haven't had much sleep. So on that same topic, let's get onto night wakings by babies.

So according to Galland et al from 2012

[http://www.researchgate.net/publication/51516990\\_Normal\\_sleep\\_patterns\\_in\\_infant](http://www.researchgate.net/publication/51516990_Normal_sleep_patterns_in_infant)

[s\\_and\\_children\\_a\\_systematic\\_review\\_of\\_observational\\_studies/file/72e7e52e9ffeb7683a.pdf](#)), night wakings are the norm until a year old, but they should decrease over the first year. That was based on a review of many studies, from memory, with many different ways of measuring baby sleep. If we look at Burnham et al from 2002 (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1201415/>), and Goodlin-Jones et al from 2001 (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1201414/>), they actually had cameras in the babies' rooms, so they could see when the baby woke. When they say night wakings, they don't necessarily mean mother-wakings or parent-wakings, they mean when the babies opened their eyes and may or may not have called Mum in. So according to their research, babies wake on average three times a night throughout the first year, and that really was throughout the first year. So they looked at 1 month olds, 3, 6, 9, and 12 month olds. And that average of three, it's a rounding, but once you rounded them to the nearest whole number, it was three across the whole first year apart from the first month. So, one month olds woke up four times a night on average, so that is slightly higher than the three that was the case the rest of the year, but three was the norm for the rest of the year. There was a fair bit of variation, two was the usual standard deviation, so I'll explain that for people who that doesn't mean much for. So one month olds, if you took 20 one month olds, 14 of them would wake up two to seven times a night, so that's a fair range, but it also covers the majority of babies. The majority of babies were waking two to seven times a night. And if you want to cover more of the babies, 19 of those 20 babies would wake up zero to nine times a night, so that's a lot of potential night wakings, but it is within the normal range. Surprisingly, for me, at 6 to 12 months old, and the figures, once you rounded them, were the same for 6 and 12 month olds, this didn't actually decrease that much. So, 70%, that is 14 out of 20 babies were waking up one to five times a night when they were 6 and 12 month olds, and 19 of the 20 babies were waking up zero to seven times a night when they were 6 and 12 month olds. Now, I'm using proportions out of 20 just because, from my studies in decision making, I know that it is easier to understand proportions rather than percentages. That is why I'm using proportions and 20 is you know, the lowest common denominator, it's just the easiest way of explaining it for these figures. So that is why I am saying out of 20, it is not because they had such a small sample size of 20. I think the one I'm drawing on is Burnham et al and I am pretty sure the number they had was 80, at least one of those studies had about 80, and I think the other one was similar. They both had fairly good



sample sizes. So when I am saying out of 20, it is just for your ease of understanding, not because that's only how many babies they had. Anyway, thankfully, baby night-wakings doesn't necessarily mean mother night wakings because babies will wake up during the night, open their eyes, go "ah, everything is the same" and go back to sleep, and they were able to detect that in these studies because they were done by video camera and they could see, when babies woke up. Obviously they must have had some fancy infrared stuff because they could see through the night, but, yeah, that was camera based.

OK, so that means it is very relevant to get on to self settling. So when is your baby going to fall back to sleep themselves. So self settling, I've learned, is a skill that develops over time. Looking at self settling as a skill is very interesting. And it does make sense when you think about it. What you are asking your baby to do when you are asking them to settle themselves to sleep in their cot, is you're asking them to calm down enough from any emotions they are feeling. So they may be tiredness, they may be excitement, stimulation, interest, all of these things, you are asking them to calm down from these emotions enough that they can fall asleep, close their eyes. You are also asking them to physically calm down enough that they can fall asleep, so if they have a new skill that they want to practice, and they want to just roll over and roll over and roll over, you are asking them to stop doing that for long enough to fall asleep. And just like skills as adults, if we were learning a new skill as an adult, if we tried to do it when we were particularly tired, we might have a harder time of it. So just like that, babies can have a harder time sometimes, self settling. So they can have a harder time self settling when they are overtired. So if your baby self-settles once, it's not time to go "Woohoo! My baby can now self settle." It is a new skill, they have done it successfully once, that is very good, but it will come and go. When they are overtired it will be harder. When they are uncomfortable, with teething for example, it will become harder. And then there are developmental disruptions as well, developmental milestones – which are great – but it can disrupt the sleep and the self settling, because, if you think about it, it is just like us as adults, like I had trouble getting back to sleep after the 3am night waking last night because I was excited about recording this podcast, so I had trouble stopping thinking about this podcast,

and obviously babies wouldn't be thinking in words, like I was, but they would be thinking in whatever way they experience the world, and they can have trouble turning that off, especially when they are going through developmental milestones, like learning to crawl, Beth's just learned to commando crawl, that sort of thing can disrupt this ability to self settle.

So, let's look at the research and see what the statistics tell us about self settling. So [Burnham et al from 2002](#)... Ah, before I go on, I should probably tell you that Burnham et al's study and [Goodlin-Jones et al's study](#), both of them are from normal samples. So these are normal babies, they are not babies who have been presented for sleep problems or anything, and in fact Burnham et al's study was a longitudinal one, so they actually looked at babies from when they were 1 month old and then followed the same babies through 3, 6, etc. months old. So therefore, the mothers or parents, at the time they signed up to the study wouldn't have known whether their baby would have trouble sleeping or not, so Burnham et al's study certainly didn't have kids who were having any particular trouble with sleeping. Goodlin-Jones et al's study recruited people at different ages, so they had a cross-sectional study of different children at 1 month old, 3 months old etc. So it is possible that mothers of 6 month olds for example, signed up to the study because it was a sleep study and they knew that their baby was having trouble sleeping. But I think it is unlikely that that happened too much in Goodlin-Jones study, because their figures were very similar to Burnham et al's figure, so I don't think that's likely.

So, back to the statistics, [Burnham et al](#) took the approach of looking at out of 10 night wakings say, how many did babies self settle from? It wasn't out of 10, it was out of two nights observation, so out of however many night wakings there were for that baby in those two observation points at 1 month old, then those two observation points at 3 months old etc. But anyway, I'm again going to use proportions using every 10 night waking how many did they self settle from. And at 1 month old, almost, not even, three of the ten night wakings babies self settled from. So at 1 month old, out of every ten night waking they self settled for three of them, and called Mum or Dad in for back up for seven of them. By 6-12 months old, this was not even half, so it wasn't, still not even five out of the ten night wakings would babies self settle from. This is on average, so there would be a fair range around that. There were probably babies who self settled from all of them, and probably babies who self



settled from none of them. But on average not even half of night wakings were babies self settling from.

[Goodlin-Jones et al](#) took a different approach, they looked at what proportion of babies self settled from the *majority* of their night wakings. So this isn't all, this is the majority; this is more than five out of ten. Goodlin-Jones et al asked how many babies were self settling from more than five out of ten of their night wakings. So at 3 months of age, not even two out of every ten babies were self-settling most of the time. And by 12 months this figure was still only 50%, so only half, only five out of every ten babies, would self settle from the majority of night wakings. So I found this very interesting, because I have got the impression from the books I've read and from other mums, that babies can self-settle, that if you do everything right, your baby will learn to self settle very early on, and will self settle from the majority of night wakings. And these statistics say that that's really not the case. So, yeah, if your baby is waking up many times a night, and not self-settling very much, please don't feel angry at your child or feel frustrated that you are a bad mum, because these statistics tell us that that is extremely normal.

I also found an interesting factoid along the way, which is that during active REM sleep, which is that rapid eye movement sleep, I believe that is when you are dreaming, you actually have paralysis, so you cannot move your limbs when you are in this REM sleep from 6 months of age. So I found that very interesting and it explains a couple of things for me. One is why newborns will flail and wake themselves up. It's probably because they are experiencing dreams, just like we do, they're probably moving about in their dreams, but for them they don't have paralysis, so that moving about means hitting themselves, and waking themselves up. And also explains those dreams I have when I am trying to fight or I am trying to run, and I feel like I'm moving through molasses. It suggests that maybe on some level, I am actually aware that my body is not moving, like I'm telling it to move in my dream. So I found that very interesting.

OK, so let's move on to the take home messages. So, what we can take home from this is we need to plan for disrupted nights. I knew when I signed up to being a Mum,

that I would be sleep deprived, I expected that, but I guess I didn't realise how long that would last. I didn't realise that it would be five or six months and I would still not have had a straight eight hours sleep at night, or ever really, and now I think I've been going seven months and still haven't had a straight eight hours sleep, so yeah, I didn't realise it went for that long. So, the best thing you can do is to plan for it. How I got through the first six months with both my kids was I co-slept in the first six months, and there are safe and there are dangerous ways to co-sleep, so if you are considering co-sleeping, or you think you may co-sleep in desperation, then please do check out the links in the show notes to sites that tell you precautions to take when you are planning to co-sleep (Baby Centre: <http://www.babycenter.com.au/a558334/making-co-sleeping-safe>, Dr Sears: <http://www.askdrsears.com/topics/health-concerns/sleep-problems/sleep-safety/cosleeping-safely>, and Dr McKenna: <http://cosleeping.nd.edu/safe-co-sleeping-guidelines/>). How I did it was I had an Arm's Reach Co-sleeper ([www.practicalresearchparenting.com/cosleeper](http://www.practicalresearchparenting.com/cosleeper)), so my babies slept in a side car to the bed, so they were on their own surface, and there was no way I could roll onto them, or they could roll into me, but they were within arms reach, as the name so aptly says, and I could easily bring them into bed and feed them, obviously with all the right precautions in the actual bed itself to make that a safe option. But of course, there are people who aren't willing to co-sleep, and that is absolutely fine, so if you are planning to get up with your baby, and I certainly did for first little while with Zander because I was just learning to breastfeed and it wasn't easy, so I needed to get up, and I needed a little bit of light to see, so if you are getting up with your baby, I guess, make it as enjoyable as possible. So, have a podcast for example. I used a lot of audio books and podcasts.

So yeah, plan for those disrupted nights. Also plan for sleep deprivation during the day. So, don't put too much on your plate, have, or try to form a good support network of people who can help you out during the day if you need help with your kids, or the housework, or that sort of thing.

Another take home message is that your child is not a problem child or a bad child and you are not a bad mum if your child is not sleeping and self settling. I think there is way too much emphasis put on sleep and as a new mum you are asked all the time "how are they sleeping?" as if that is the definition of how a baby should be, they should be a good sleeper. And, looking at these statistics, it is quite frequent that they





will wake up, and it is quite common for them to need you when they wake up. So, don't blame the baby and don't blame yourself. But of course, if you are struggling to cope with the amount of sleep deprivation and the night wakings, or if you do think that these night wakings are particularly unusual for your baby, or if you just feel, as a parent, that there is a problem, obviously seek help from someone qualified to give it. Paediatrician, that sort of thing, because you as the parent probably have the best sense of if something is wrong. And if it is really not working for you then you do need to change something.

So there are some steps as well, that you can take in the first year, to try and decrease the number of night wakings. And this is based on the study by [Burnham et al in 2002](#), they were the ones who did the longitudinal study, so they looked at the same babies 1 month, 3 months, 6 months, up to 12 months, and I think possibly even beyond. So they looked at what predicted how many of the night wakings babies would self settle from at 12 months using figures from earlier on in the year. I'll tell you what they found, and then I'll tell you what I can extrapolate from that in terms of actual steps you can take. So they found that babies self soothed more often at 12 months if their parents waited longer before intervening when they cried at 3 months. And if their parents were holding them less and less throughout the first year. Decreasing holding during the first year, this could be that parents noticed that their babies needed a lot of holding at one month old, or three months old, or parents just really liked holding their babies, but they didn't adjust that over the next year as their babies' needs changed and they no longer needed to be held as much, and would actually sleep quite well not being held. It's possible that parents didn't adjust for that and therefore their babies didn't learn to self settle as well as the parents who followed the baby's cues and put them down more as they got older. And this is holding only during the night by the way, this is based on the cameras in the babies' rooms, only looking at behaviour during the night. So it is possible that this is because the parents weren't responding to the babies' cues and putting them down as the babies changed over time. But it is also possible that it was baby initiated. Maybe the babies had particular trouble with separation anxiety that often occurs around 6 months and therefore the amount of holding did actually increase but that was in

response to the baby wanting to be held more, so it is possible that it could have gone either way. So I don't think we can necessarily say that as a parent you should decrease the amount of time you hold your baby throughout the first year and then they will learn to self settle. It could be this interplay between parent and child.

But anyway, there are some direct steps that I have taken from this that you can try in the first year that should help your baby to develop self settling skills as soon as they can. So the first is to provide opportunities for your baby to fall asleep in their cot. So, I think this advice can be taken too far or pushed too hard, and I know it is advice that has stressed me a lot in the past. But how I have incorporated this advice was that I would always do a calming routine, whatever that was at the stage and age of my children, then I'd put my baby in their cot or co-sleeper to try to fall asleep themselves. And that was Plan A, and I never really expected Plan A to work, and it very rarely did. I'd then go to Plans B, C, D and E, which often involved feeding, and hugging, and bopping, and all those very hands on sort of things that babies often need to fall asleep. But Plan A was always you fall asleep in your cot and realistically it just didn't really work very often, but I provided the opportunity, and that's the important thing. I did this more strictly with Beth – starting with this step, and I noticed that she did self settle more and more frequently up to now, which is like 7 months, so yeah, it does work more and more often, so it is worth having that as the first step.

The second thing you can do is when they cry, wait and listen first. So this can, again, be taken too far, but, oops, speaking of crying, there is Beth, I will come back and tell you number 2 soon... OK, I'm back, so number 2 was when they cry, wait, and listen first. That is pretty funny that at that point of saying that I ran off to say hello to Beth, but it was well and truly time for her to wake up anyway. So, yeah, when they cry, wait and listen first, and you will over time learn when, the difference between the cries that say that they're about to get really distressed and need your help, and the cries that say "Aah, I'm just trying to get to sleep here and I might manage it by myself". So yeah, wait, and listen, and with time and experience you will learn which cry is which, and you will be able to then respond faster to cries that you know will end up in distress, and respond slower and wait longer for the cries that mean "I might be able to do this by myself Mum". So Number 2, wait and listen first.



Number 3; try to settle them in their cot before picking them up. So, this is part of the decreasing the amount of holding. I got really frustrated with all the books that would tell you “just pat them in their cot until they fall back asleep, and then just gradually stop patting them sooner and sooner” and I was like “but patting them doesn’t work!” and it didn’t, for either of my babies, it very rarely worked. But even so, with Beth, I’ve again been stricter at when she cries, I go in and I pat her first, and there is the odd occasion where it works. So it is worth trying. And with all of these things, they’re worth trying, but don’t stress if it doesn’t work. And that’s something I’m adding as my fourth step, is don’t stress, because I know that all these recommendations, they put a lot of pressure on us, as Mums, and they can make us feel like failures when we are not able to stick to these steps, but realistically we are not going to be able to. Our babies go through hard times, and they’re just learning this very new skill, so very often these things are not going to work, especially in the first year. So don’t stress, do provide the opportunities to fall asleep in their cot, to self-settle when they cry and wake up, by waiting and listening first, and do try to get them to self-settle in their cot by patting them first, but if none of those things work, don’t stress, just do what you need to get them back to sleep and you back to sleep, because habits can be changed, and as Mums we are under enough pressure as it is that we don’t need the added pressure of trying to feel like we need to be a perfect mum by sticking to these very strict rules, when in the first year, parenting isn’t about sticking to strict rules, it is about being responsive to your child. So, yeah, number 4, and it is a big, important Number 4, I think, is don’t stress about any of these things but do try to do them every now and again, or as part of your routine.

OK, so that is basically it for the content for today I hope you really enjoyed it, and if you did, I’d encourage you to subscribe (iTunes:

<https://itunes.apple.com/au/podcast/practical-research-parenting/id963980371>; or

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Also, if you enjoyed it, I’d really love it if you could leave a review on iTunes

(<https://itunes.apple.com/au/podcast/practical-research-parenting/id963980371>)

because that would really help me to get the word out, and get more people listening to the podcast, and I think it is providing valuable, important information for mums,

new mums, and mums like me who are somewhat established. Thank you again for listening. If you want to follow any of the links I mentioned in this podcast or if you want to check out any of the things I have said, or the transcript (Oh, here you are – that was quick!), please go to [www.practicalresearchparenting.com/babysleep](http://www.practicalresearchparenting.com/babysleep). You can also find all the full references there.

So next week we will be talking about sleep associations from a psychology perspective. And something I forgot to mention is that in the next episode, I am going to be starting something in the introduction, which is adding just one little factoid about myself in the introduction. I wanted to give a shout out to Pat Flynn for that idea, because I got that directly from his podcast, so thank you Pat Flynn from the Smart Passive Income podcast

(<http://www.smartpassiveincome.com/category/podcast/>), for that idea. I hope you enjoy that. Initially I thought that was a silly idea because I don't like small talk, and I thought it sounded like a bit of small talk in a podcast, but as it turns out I've really looked forward to hearing that little factoid about him. So I hope you enjoy learning a bit more about me. Please do feel free to contact me

([nicole@practicalresearchparenting.com](mailto:nicole@practicalresearchparenting.com)). I would love to hear from my new subscribers. So thank you very much for listening, and please spread the word. Bye.