

Dr Jonica Newby

Ready, steady.

NARRATION

What do you think it takes to be a good dad?

Last time, we met these three men just as they'd discovered they were about to become fathers.

Mark Lulham

We're having a baby, we're having a baby.

Murray Henstock

Doesn't matter whether it's a boy or a girl, they're going to like Mr Potato Head.

Liam Timms

I look at it like a new hobby that's coming around.

NARRATION

We followed them in some pioneering studies.

Dr John Eden

I'm the hormone doctor in the team.

NARRATION

We saw how fathering abilities may be primed by a sort of male pregnancy. And we left them on the emotional high of becoming a dad. But now, they're heading home.

Mark Lulham

I have no idea what I'm doing.

NARRATION

Will their top of the pops aspirations meet the harsh reality of 21st century fatherhood?

Dr Jonica Newby

Today, only two out of three children will reach 18 with their fathers still at home. It's a paradox at the heart of contemporary fatherhood. At the same time our expectations of dads are rising exponentially, more and more kids are growing up without them. So with dud dads, divorce, and complicated biology all in the mix – can science tell us what makes a good dad?

Murray Henstock

Video diary. It's Saturday. And we have had Jackson home for just under a week.

Mark Lulham

Did you know, they've got a department of DOCS specially set up for daddies who change their kids' nappies? You can dob me in when you get older.

NARRATION

Now they're home, all our dads are anxious to excel in their new role. Little do they know, that may come at an unexpected cost. Two months in, they're back at the hospital to find out the results of their hormone tests.

Dr John Eden

Well gentlemen, these are your results, these are the testosterone levels. Now keep in mind they are preliminary. After the birth of the baby, I think you can see there's definitely a trend down. So gentlemen, your testosterone has dropped.

NARRATION

That much we revealed last time. But here's what we *didn't* show you.

Mark Lulham

I'm actually shocked. Like for me, becoming a dad was like 'Wow, I'm Uberman now.' So I thought it would have been a major testosterone pchew through the roof.

NARRATION

Well, hate to break it to you Mark, but if you want to be a good dad, you may have to give up the thing you held so dear as a single man, permanently.

Dr Jonica Newby

Welcome to Las Vegas, the perfect place to study testosterone.

Prof Peter Grey

So much of Vegas I think really is about status and signalling for men to show off to women.

Dr Jonica Newby

Good spot for a biologist?

Prof Peter Grey

It really is!

NARRATION

Professor Peter Grey's interest in testosterone was sparked, naturally enough, by a bird. A dark eyed junco bird to be precise.

Prof Peter Grey

What was so striking about some of these birds is that you find that male testosterone levels change across the seasons as male behaviour changes. That testosterone levels are highest, when males are competing with each other, when they're courting females. But once it's time to start caring for offspring, you saw their testosterone levels drop.

NARRATION

So the scientists tried a little test. They injected testosterone into happily nesting junco dads who

promptly jumped off the nest, abandoned the kids, and started singing for a new mate. And it's not just juncos, most North American migratory birds drop the big T, testosterone, when they become dads.

Prof Peter Grey

It does support the idea that testosterone has to get out of the way a bit for nurturing to emerge. And that got me thinking, this would be fascinating to look at similar issues in people.

NARRATION

Now, there are over 20 studies covering eight countries and several thousand people, all carefully calibrated and corrected for age, so there's no escaping the truth. Testosterone is highest in single men, it drops in some men upon marriage. And it's definitely down in dads.

Prof Peter Grey

Some men might think this is bad news. Does this make me less of a man? No. Well nature's given us this capacity for males to care for their offspring in ways we just don't see in other apes. That's something to celebrate, really.

NARRATION

Remember, in the animal kingdom, we are unusual. 90 per cent of mammals show absolutely no paternal care. Yet birds make model fathers. The lesson seems to be: good dads let their testosterone go with the birds. Fortunately, our dads have risen – or is that fallen – to the testosterone challenge. And they're off to a racing start with the new skills test. Unfortunately, this is where it can all start to go very wrong.

Mark Lulham

I would give a grand to anybody to get an hour's sleep.

Murray Henstock

It's taken me 90 minutes to get him to this stage. He's awake. You're supposed to be asleep, mister.

NARRATION

Back when our dads signed on for the Royal Women's Hospital study, the scientists weren't just interested in their hormones.

Prof Marie-Paule Austin

Hi, I'm Marie-Paule Austin. I'm the research psychiatrist.

NARRATION

They've also been tracking the men's psychological states. We've all heard of postnatal depression in women – we're only just realising how often it strikes men.

Prof Marie-Paule Austin

Up to ten percent. So really much more common than any of us realized. Nowadays, because there is often no one else to support the mother and infant, then they are the only support. So not only are

they having to be the support team, they're having to go out there and work twelve hours a day, often.

Liam Timms

It's tough. It can be long hours and hard work. We talk on the phone. Well, I talk, he listens.

NARRATION

And these days with extended families no longer the norm, if dad falls over, it matters.

Prof Marie-Paule Austin

So what we're finding now, with some very new studies coming out, is that those men who have experienced depression in the early weeks and months, have offspring who have greater problems in terms of emotional and behavioural adjustment, and in some cases less language development than might be expected for a child of a similar age.

NARRATION

So if you want to be a good dad, get treatment for depression early.

Murray Henstock

Okay, so are you ready for my joke? Two elephants fall off a cliff: boom boom.

NARRATION

So far, our dads appear to be retaining their sense of humour.

Liam Timms

What did one snow man say to another snow man? I think I can smell carrots.

NARRATION

Though we won't know whether any are secretly falling to the black dog until we get their results later.

Mark Lulham

What do you call a cow that's eating your lawn? A lawn-mooer!

NARRATION

But even if they're coping just fine, there's no doubt modern dad-dom has its moments.

Murray Henstock

Yes, I've been vomited on, in the head, in the ear, in the mouth. That was pleasant.

NARRATION

And as the going gets tough, the tough are increasingly going. Fifty years ago, the vast majority of kids grew up with their father in the same home as mum – for better or worse. Now, a third won't. It's a grand experiment on a generational scale, and the results are starting to come in. One of them mindbogglingly surprising. Meet Jacinta. She's a young mum. In fact, she started everything early.

Dr Jonica Newby

How old were you when you hit puberty?

Jacinta Beard

Seven or nine? One of the two... I was really young.

Dr Jonica Newby

That must have been strange.

Jacinta Beard

It was scary, very scary. It took a while before I even let my mum know.

Dr Jonica Newby

Oh, even you're mum didn't know!

Jacinta Beard

No, I hid it really well.

Dr Jonica Newby

You hid it from your mum?! From the age of seven?!

NARRATION

Now let's cross to San Francisco to meet this man. Bruce Ellis believes Jacinta's early puberty could be because she didn't have a dad.

Prof Bruce Ellis

There seems to be something special about the role of fathers in girls' lives in regulating how quickly they grow up, when they actually go through puberty, and particularly the risk for early sexual activity and teen pregnancy.

NARRATION

Huh?! The idea dads could influence the timing of puberty harks back to a fascinating experiment in the 1960's. A male college student was asked to interview some 12-year-old girls. Unbeknownst to the girls, observers were recording how close they got, how much eye contact they made, how flirty they were.

Prof Bruce Ellis

Girls from father-absent homes sat closer to the male interviewer, talked to him more, and made more eye contact, compared to girls from father-present homes.

NARRATION

Since then the studies have piled up. Dad departing before age five seems to accelerate puberty.

Dr Jonica Newby

So if you just take the unique contribution of the absent father, how much earlier do the girls come

into puberty?

Prof Bruce Ellis

Well, if you just consider father absence in and of itself, it tends to be about a six month acceleration.

Dr Jonica Newby

Goodness!

NARRATION

To understand why, we need to visit our animal friends again. These are prairie dogs. Like us, they practice co-parenting. But if dad is removed, his daughters hit puberty early, and even earlier if a step dad is introduced.

Prof Bruce Ellis

Many animal studies, there are pheromonal effects where exposure to an unrelated adult male has the effect of accelerating puberty in girls.

NARRATION

Bruce speculates there's something similar going on in people.

Prof Bruce Ellis

When fathers are absent or low-investing, it may make adaptive sense for girls to grow up more quickly, and not put a lot of energy into finding long-term relationships with a high-investing mate, who may not be available.

NARRATION

But even if this theory needs a bit more testing, other impacts of absent dads are rock solid. You only have to look at the numbers. Here at Pennsylvania State University, massive studies going back decades are hunted down and roped together by the Master of the Dad Data, Professor Paul Amato.

Prof Paul Amato

Children who experience the divorce of their parents, don't do as well on average across a wide range of outcomes. Having a greater risk of doing poorly in school, a greater risk of developing conduct or behaviour problems, and of depression. Now the children who grew up with two continuously married parents, have overall about a ten percent risk. For divorced families, the risk is twenty percent. So, it means there's a doubling of the risk... a doubling of the risk.

NARRATION

So what is it dads do that mums don't?

Dr Jonica Newby

Who does more of the grunt work?

Alex Henstock

Oh...

Murray Henstock

You do.

Dr Jonica Newby

Who does more of the playing?

Murray Henstock

I do.

Alex Henstock

Yeah.

Murray Henstock

Sorry about that.

NARRATION

It's one of the things mums most complain about: all dads do is play with the kids. And it's true. Studies show dads spend 80 per cent of the time playing and 20 per cent caring, while with mums it's 50/50. And it can be seriously annoying.

Louise Heywood

Okay, here's what happens when it's my turn to put them to bed. I give them their bath, put their pyjamas on, have a little story, and then they go to sleep. And here's what happens when Callum does it. Pillow fights. Tickle-attacks. Running up and down the hallway. Rufus who would just be holding onto the bars of the cot, jumping up and down, going 'agghh agghh!'

NARRATION

But is all this exactly what's good about dad?

Dr Jonica Newby

Time for an experiment. Ok Alex, so you have five minutes to entertain your child.

NARRATION

Early childhood educator Robert Benson is recording what the parent does – how verbal or physical they are.

Dr Jonica Newby

She's doing a lot of talking, isn't she?

While I'm recording the excitement or arousal of the child.

Ok, five minutes are up, you're time stops now.

NARRATION

Next, Murray.

Dr Jonica Newby

He's done more than three different activities in less than one minute.

Robert Benson

Much more physical too.

NARRATION

Now let's increase the challenge: bring on the five-year-old.

Dr Jonica Newby

It's almost like, as the attention drops, Murray changes up, keeps the attention high.

NARRATION

And for good measure, we try some other mums and dads too.

Dr Jonica Newby

Ok, shall we tell them what we found?

Robert Benson

Well, the women amongst you were much more verbal with the children and stayed quite still. Whereas the men, there was much more physical stuff, lots of moving around.

Dr Jonica Newby

What I was measuring was the actual arousal of the children. So this was a typical graph with the woman. The arousal of the child stays round about the same. And in fact, Alex, if the arousal was going up, because you were playing soccer, you brought it back down. Whereas with the men, I had to add a whole other level of graph. So basically, the women kept the arousal of the child on an equilibrium. The men got the kids all roused up.

NARRATION

But far from being a problem, one expert says this is the key to dad's unique contribution to childhood development.

From the US, he helped us design our little experiment. He's the still playful Professor Ross Parkes.

Prof Ross Parkes

What the dads are doing is they're providing, they're providing opportunities to experience a wide range of emotional arousal and excitability. It's an opportunity for children to learn about their own emotional regulatory states.

NARRATION

Emotional self regulation is one of the most important lessons a child has to learn. If they only ever played like mums want, they wouldn't get to practise high arousal situations, and how to cope. Dad play is also an opportunity to learn a wide range of facial expressions – how to read other people's emotional states.

Prof Ross Parkes

But it's not just that physical play is important, it's the *quality* of that physical play that's critical. And it's important that the father back up, or jumps in and says 'That's enough, we need to slow down.' 'Cause those kinds of lessons are really important, otherwise you end up encouraging bullies. You end up encouraging kids that are disregulated, don't respond to the feedback from their peers, and then the behaviour escalates and somebody gets hurt.

NARRATION

Nice theory, but does it translate into real life, when the kids leave dad and go to school. In series of experiments, Professor Parkes found at age seven, kids whose dads were "fun to play with" were more popular with their peers.

Prof Ross Parkes

Those kids also independently, when you show them a series of slides of faces, angry faces, disgust, happy, sad, they do better recognizing those cues.

NARRATION

Dads also tend to challenge children more, which may help explain why so many studies show involved fathers deliver tangible benefits to how well kids do later in life.

Dr Jonica Newby

Which brings us to the social question of our age: can you be a good dad and a separated one? Well, prior to the 90's, the answer from research overall would have been no, but it seems, as a species, we're adapting.

Scott Pettet

Hi, I'm Scott, and this is my beautiful daughter Angela. I decided to go for 50/50 joint custody and that was something that was supported by Angela's mother as well. As a man, there have been a few challenges, and it may sound silly, but one of those challenges has been doing Angela's hair!

NARRATION

While few men take on the hair-raising challenge of 50 per cent custody, there's clearly a generational shift in separated society.

Scott Pettet

I think I might need some lessons.

NARRATION

Back in the 70's, less than a fifth of separated dads saw the kids at least once a week. By the 2000's, it's ramped up to a third. But that's not the whole story.

Prof Paul Amato

When fathers simply saw their children frequently, that didn't necessarily predict positive outcomes on the part of children. In fact, there was very little correlation at all. When we looked at what they did when they were together, then we saw some big effects.

NARRATION

The secret to being a separated superdad, is to do the parenting stuff as well as the fun stuff.

Prof Paul Amato

When fathers are highly involved in the right way, at least half of that increased risk that children will have some kind of serious problem, goes away. So, the fathers are really the key in a lot of ways to ensuring that children are protected from the possible risks that could accompany a parental divorce.

Mark Lulham

You know what to do here: give it a wheel alignment .

NARRATION

Nearly a year has gone by, and the boys are starting to show exciting signs of career aptitude.

Murray Henstock

I don't think he's worked out that trying to push a rusk up a cat's nose is the best way of bonding.

Alex Henstock

There could be worse places.

Murray Henstock

True

NARRATION

Liam, meanwhile, has discovered a way to see his son, and give him a start in the corporate world.

NARRATION

The kids are clearly thriving, but how are the dads really coping?

Prof Marie-Paule Austin

Hi guys. We've got the findings from your psychological scores here. And the most striking finding is the stress scores are up, both before and after birth, and they're actually twice as high as for non-dads.

Murray Henstock

Do they know what causes the increase in stress?

Mark Lulham

That guy, that guy and that guy.

Prof Marie-Paule Austin

What I think is nice though, I suppose, is that it's already beginning to come down in the first few weeks after birth. And the good news is: no evidence that any of you developed postnatal depression.

Dads

Fantastic.

NARRATION

Now, for our final test. This is the next frontier in dad science. In marmosets, it's been discovered fathers form new connections in key parts of the brain.

Dr Jonica Newby

Oh, it's lighting up like a Christmas tree now!

NARRATION

While we don't know yet if that's true of humans, we can see this.

Dr Ron Shnier

Just look at this, this is amazing. The anterior striatum, the amygdala, the cingulate gyrus, these are areas strongly associated with love and positive emotion. And so...

Dr Jonica Newby

So, we're looking at the love.

Dr Ron Shnier

We're seeing the man, seeing the love.

Dr Jonica Newby

It's quite moving really.

Dr Ron Shnier

It is.

NARRATION

The more we look, the more we discover about what it takes to be a good dad. There are behaviours we can learn, and there's innate biology. We now know how unusual it is that humans have the potential for father care. It's a potential that evolved way back when raising a human child with its big brain became too big a job for one parent alone. It's a potential we're watching blossom in front of us.

Dr Ron Shnier

So Murray, not only does this show that you love your baby, we can actually see you loving your baby.

Murray Henstock

I think it's amazing! They're my little, they're my little, they're my little Jackson parts.

NARRATION

And whether it's hormones, genes, or just responsibility for a vulnerable new life, our dads are noticing the odd personal change too.

Murray Henstock

Even sometimes you now watch some movies and you start to get a bit of a... on the verge of tears and you think 'No, I can't let the movie make me cry.'

Alex Henstock

I didn't know that.

Murray Henstock

So, well I tend to keep those things to myself.

Alex Henstock

Oh... oh...

Murray Henstock

Yes. Oh...

Mark Lulham

It's a case of feeling so much love, you would die a thousand deaths, and then die a thousand more just to keep him safe.

Dr Jonica Newby

So the tear ducts have been switched on?

Liam Timms

Yeah, well and truly.

NARRATION

Fatherhood in the 21st century is changing, and to meet the challenge, so it seems, are fathers.