

Your child, your choice

If you choose the wrong child car seat or make mistakes installing it, your child could pay a very high price if you have a crash. Our research will set you right

Buying the right car seat is the most important travel decision you'll make for your child. But for most parents, the array of brightly coloured seats presented by retailers causes a dilemma. They all meet the legal minimum standard, and they all look jazzy and cool. So how on earth are you supposed to know which one works best – in normal use or, in a worst case scenario, protecting your child if you have a crash?

Of course, it doesn't end there. Once you've purchased your child's seat, it can only protect your child effectively if it's installed correctly.

To help you, we've put the latest batch

of car seats through our rigorous test programme. We've also talked to people whose job it is to advise parents on choosing and using seats. And we take a look at why rear-facing seats for older children might be a way of keeping them safer in cars (see p59).

Trust Which?

Our research into child car seats is second to none. We put every seat we test through the most rigorous crash testing regime available, including front and side crashes equivalent to those used in tests on car safety for adults.

We also carry out detailed ease-of-use

We put every seat through the most rigorous crash testing available

assessments on every seat, in every mode the maker claims it can be used in. And we do this in a range of mass-market family cars, from superminis to MPVs.

To help you to understand how best to make sure of your child's safety in transit, we also investigate current best practice and the direction for future designs.

Finally, we unravel all the flowery language so that parents and carers can feel confident that they will choose the right seat for their baby or child.

We've added all our findings to our database of previously tested seats. Go online to www.which.co.uk/childseats for more information.

How we test

We test what happens in a 40mph front crash or a smash from the side – this is more realistic than the minimum legal requirements

Our crash tests are derived from Euro NCap – it carries out crash testing on behalf of European consumers and shows how well cars protect occupants in severe accidents.

Our testing is similar for child seats and more accurately reflects what happens in real crashes than the legal minimum requirement for child seats (ECE R44/04), which uses much lower loads and doesn't include a side-impact test.

We propel a Vauxhall Astra car body down a track, stopping it sharply and filming the effects on the dummy in the seat. Our dummies are wired

up to record the head, neck, chest and pelvic loads, accurately indicating what chances a real child would have in similar circumstances.

Easy is essential

Another omission from the legal requirements are ease-of-use tests. We check how easy the instructions are to understand and whether a seat's easy to install and adjust in a range of cars.

A seat that's difficult to install is more likely to be incorrectly fitted, which could increase the risk of injury or even death in a crash. Go to www.which.co.uk/childseats to see film footage of our tests.

A FITTING MESSAGE

A poorly installed seat could result in a child's serious injury or death

- Have at least one go at installing before purchasing, preferably with help from an expert.
- Examine the seat and thoroughly read the instructions before taking it to your car. Always follow the manufacturer's instructions and keep them with the seat.
- Carry children in a back car seat if you can.
- Never fit a rear-facing seat in front of an active airbag. If it goes off, the force could kill your child.
- The seat should have minimal forward or sideways movement. When you open the buckle of the adult belt, the seat should spring upwards slightly.
- Only the seat belt webbing should touch the child seat frame, not the buckle. Otherwise pressure on the buckle could make it fail.
- Never modify a seat in any way.

Expert help

Installing a seat for the first time is rarely straightforward and it seems even trickier once you get home.

In Bromley, Kent, the council's child car seat centre advises parents and retailers on installing car seats. We visited the centre to find out more.

'It's important to make sure every seat is correctly installed. There should be no movement,' said Val Fuller, Child Car Seat Education Officer. 'The advice we offer to parents in the child car seat centre and our Transport for London-funded training scheme for retailers is aimed at improving safety for all children travelling in our area.'

We sat in on a training session at retailer Baby Baby in West Wickham. It was training staff to a basic level of



A Bromley expert shows a local mum how to install her new seat



1/3 GROUP 0+

79% Mothercare Meteor £190 (Isofix); 74% £90 (Belted)

You can buy this seat with an Isofix base (see 'Try before you buy', p58, for more about Isofix) or use it on its own, secured by a car seat belt. It performs best in Isofix mode, although the support leg of the Isofix base can be used only in cars with an appropriate floor design (car-compatibility details are on Mothercare's website – see 'Contacts', p60).

It's a top performer for safety and ease of use, but has slightly limited visibility for the child. The belted installation isn't quite as

effective in our safety tests, but is still good enough to achieve Best Buy status. It's only available at Mothercare.

WE LIKE It's very easy to install – especially when used with an Isofix base.

Available Mothercare Suitable child weight Up to 13kg Travel system n/a

which? **BEST BUY**



2 GROUP 0+

77% Jané Strata £112

This infant carrier uses the adult belt to secure it in the car, and it's slightly more difficult to fit than other Best Buys. However, once in place, the integral harness can be easily adjusted as your child grows. With many other seats you have to unthread the belts. It has one minor impracticality – to avoid potential injury, the handle has to be folded when the seat's in the car. It's cheapest online.

WE LIKE Its excellent head support.

Available Independents and online Suitable child weight Up to 13kg Travel system Jané Nomad, Slalom Pro, Aniversario, Powerwin Pro, Twin Two and Carrera Cup

which? **BEST BUY**



4 GROUP 0+

72% Chicco Auto-fix Plus £100

This version of the Chicco seat is less convenient than the version with a base (7), as you can't just secure the base using the seat belt and click the seat in and out. However, this model's £20 cheaper and performs better. With the base, performance is still acceptable but it just misses our Best Buy rating. It's cheapest online.

WORTH KNOWING This model has a poor-quality finish.

Available Independents and online Suitable child weight Up to 13kg Travel system Chicco Trio For Me, For Me Stroller, Tour 4 Trio and CTO.2 Due

which? **BEST BUY**



Val Fuller, left, trains staff at a local shop

competence to advise about weight groups, moving babies from one stage to the next, airbags, harness adjustment, Isofix and the law. Most child-seat retailers in Bromley display certificates, so you can ask for the qualified person in each store.

Bromley and Essex are the only two councils we know of that have these centres, and they welcome all parents. But if you don't live nearby, contact your own local authority. Most offer advice, either from road safety officers or traffic police officers.

Which? says

To improve the chances of all children in crashes, we'd like to see schemes like Bromley's rolled out across the country.

Most local authorities offer installation advice, but not on the scale of Bromley or Essex



5 GROUP 0+

71% Hauck Zero Plus £45

This lightweight infant carrier achieved first-rate front and side crash results, with the child protected very effectively from the crash forces. It is secured using the car's seat belt and the instructions are reasonably clear, but the seat belt guides are partly hidden by the badly fitting cover. This, combined with having to fold the handle in the car, brings down the ease-of-use score. It's cheapest online.

WORTH KNOWING It has great side crash performance but is difficult to fit.

Available Independents and online Suitable child weight Up to 13kg Travel system Hauck Disney and Shop N Drive

which? **BEST BUY**



13 GROUP 1

70% Britax Explorer Isofix £230

This seat had excellent performance when used in Isofix mode (the belted version (17) isn't a Best Buy). It does well in front and side impacts, is easy to install and adjust, and cleaning the cover is a doddle. It offers good leg support for your child, although their field of vision will be slightly restricted. At 13.4kg, it's the heaviest Best Buy and is probably best left permanently in one car. It is cheapest at John Lewis.

WE LIKE Its very clear instructions and good performance.

Available Halfords, John Lewis, Mothercare, Toys R Us Suitable child weight 9-18kg Travel system n/a

which? **BEST BUY**



20 GROUP 2/3

72% Cybex Solution X £110

This is a good-quality seat that scores highly for safety and is very easy to use, with the car's three-point seat belt securing both seat and child. Its high back means it may be necessary to remove the car's head restraints to ensure a snug installation against the car's seat. But once the seat is in place, this will provide a very comfortable travel ride for your child. It's cheapest at Mothercare.

WE DON'T LIKE The hand-wash only cover is hardly ideal for busy parents.

Available Independents and Mothercare Suitable child weight 15-36kg Travel system n/a



Test dummy

Mamas & Papas seat falls down in our tests

As with all the seats on test, the Mamas & Papas Teko (19) meets the current minimum legal requirements. It's also well made, lightweight and has reasonably clear instructions, but these aren't enough to save it from our 'Don't Buy' recommendation.

For children over 25kg, Mamas & Papas recommends removing the backrest. This means the Teko fails to protect the child from high front and side crash loads. In a serious impact, this could



lead to serious neck, chest and head injuries, or even death.

The instructions don't aid the relatively complex belt routing, meaning incorrect installation is a higher likelihood than with many of the other seats in our test.

Turning things around



Rear-seat campaigner Helena Atkinson and Eiris, aged 14 months

FREE CAR GUIDE

Don't set foot in a showroom without it

Which? Car

2008 is the no-nonsense guide to buying new and used cars – it's free with your next issue of *Which?*

This essential guide features the results of our huge car reliability and satisfaction survey, plus our Best Buy cars for 2008.



OUR RESEARCH

When selecting products to test, we consult manufacturers, market intelligence reports and industry experts, then check availability on the high street and online. Tested models include top sellers from the most popular brands, products with innovative features, models from some lesser-known brands and widely available Best Buys from previous tests.

TRY BEFORE YOU BUY

Whether you're a parent, grandparent, uncle or aunt, or just a friend, we'll help you meet your legal obligation if you carry a child in your car

Q I need to buy a child car seat. Where do I start?

A Choosing the right seat always starts with your child's weight. This governs which seat you need to buy.

- Group 0** 0-10kg (from birth to about nine months)
- Group 0+** 0-13kg (from birth to about 12 months)
- Group 1** 9-18kg (about nine months to four years)
- Group 2** 15-25kg (about four to six years)
- Group 3** 22-36kg (about six to 12 years)



Confused by the wide choice of seats? Start with your child's weight category

Q Now I know the right weight category, how do I find the right seat for my child?

A Try the seats you are interested in in your car with your child. If it's for an unborn baby, try them anyway. Don't wait until the birth – unless you have a child car seat, most hospitals won't discharge you if you're driving home.

Preferably, get expert advice to help you understand how to install the seat and whether it fits your car properly. You might find help at a retailer, although in our experience the level of expertise available is very much hit and miss.

Bromley and Essex councils both offer expert help with choosing and using seats – see 'A fitting message', p56, for more, and to find out what to do if you don't live near these areas.

Q Should I buy an Isofix-mounted seat, rather than a belted one?

A Isofix seats are generally easier to install – reducing the chance of misuse – as they just slot into place. If fitted correctly, they usually perform as well or better in a crash than the equivalent belt-fitted seat. But not all cars have Isofix mounts and not all Isofix seats fit in all cars with Isofix mounts. Get professional advice before you buy and try the seat in the car.

Research suggests Swedish children up to five years old fare better in car accidents than those in the UK. We explore why

In Europe, children up to 13kg (around a year old) generally travel rear facing. But in Sweden, authorities recommend that children are kept rear facing until they are at least four years old, and all seats initially have to be fitted by a professional. In the UK, rear-facing seats are hard to find and seats don't have to be professionally fitted.

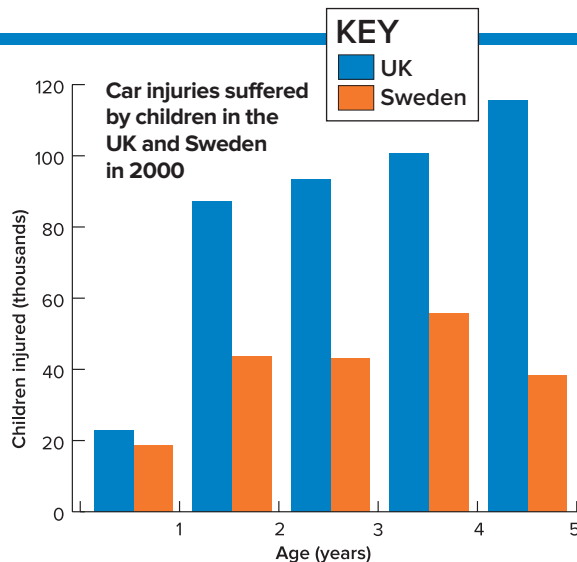
The graph, right, compares injuries suffered in cars by children under five. From age one, when most UK children change to forward-facing seats, Swedish children fare much better.

Helena Atkinson, from the campaign organisation Rear Facing: The Way Forward, wants to encourage parents to keep children rear facing for longer. She said: 'Children are clearly safer rear facing. The problem is that UK parents are unaware these seats exist.

Manufacturers won't make them available and people don't know to ask for them.'

We showed the graph, right, to Farid Bendjellal, Technical Director at child-seat manufacturer Britax. He said that it doesn't account for potential misuse and that in the UK, 60 to 80 per cent of seats are incorrectly installed.

When we asked Farid why his company sells rear-facing Group 1 seats in Sweden, but not the UK, he said: 'There's an agreed European standard, but Sweden has adopted separate practices.' Farid added: 'In a front impact, rear-facing seats usually protect well. But the complexity of straps and brackets required to ensure the seat is secure in rear impacts creates a unique installation in each model of car.'



Data supplied by the Swedish National Road and Transport Research Institute

We've previously tested Swedish Group 1 rear-facing seats and found them generally safe, but difficult to install.

Helena said: 'This is no reason to compromise children's safety. Car seats should be installed by a professional with adequate training.'



Bromley expert Derrick Holmes (see p56) explains how to adjust the seat harness

Q Which shop should I buy my child car seat from and how much should I pay?

A Visit one or more retailers where you can try the seats, and ask to speak to someone who is trained to offer advice. We don't generally recommend buying from online shops as they don't usually offer this service.

We list prices in our table on p60. Our cheapest Best Buy is only £45 – the Hauck Zero Plus (5). If you choose a seat that's part of a travel system (see p60 for more information on which seats go with Best Buy pushchairs), check whether the system is available as individual parts or whether you'll get a better deal if you buy it all together.

A FAMILY AFFAIR

Best Buys under scrutiny – the Which? family try out two child car seats

Darren and Toni Jones and their children, Harriet (3) and Sam (5), tried two Best Buy child car seats (see *Which?*, June 2007, p70, and www.which.co.uk/carseats) and told us what they thought of them.

The instructions for the Britax Evolva 2/3 Isofix were in a drawer at the front of the seat – easy to find, easy to store.

But with the Britax Evolva 2/3 Ultra seat, they couldn't find them anywhere. 'We thought they were missing and struggled to install the seat from the pictorial guidance on it,' Toni said.

The instructions turned out to be behind a panel underneath the seat – not obvious, difficult to access and, once located, hard to retrieve.

Both seats use the belt to secure the child, but the Joneses liked the simplicity of installing the Isofix version. Darren told us: 'It stays in place even when there isn't a child strapped in.'

The Joneses want to be able to recline the children's car seats. 'We'd like to be able to do it if one of the children falls asleep on the move,' Toni said.



Darren and Harriet try out the Britax Evolva 2/3 Ultra

Reclining both seats was a struggle at first. In the end, almost by chance, Toni discovered that both recline when you tilt the adult seat back – simple, but probably not doable on the move.

(Turn to p40 to find out how our advice on buying a car saved the family £9,706.)

Travel systems

A one-stop travel package for your baby

A travel system pushchair can be used with a compatible car seat and/or carrycot that is designed to attach to the pushchair.

They let you easily transfer your baby between car, pushchair and home – great if you spend a lot of time on the move. But be aware that babies should not spend long periods of time in a child car seat.

Travel systems appear to be a bargain because they are flexible, but the pushchairs are often large and heavy and you need space to store parts you're not using. Babies will outgrow the child car seat in around 12 months.

The Mamas & Papas Pro-Sleep IP (9) is the only seat in this test that is compatible with a Best Buy pushchair, the Ziko Herbie. There are some Best Buy seats from our

2007 tests that match pushchairs. The Best Buy Maxi Cosi Cabrio seat is compatible with a wide range, including two Best Buys – the Bugaboo Bee and Quinny Speedi SX. The Best Buy Recaro Young Profi Plus is part of the Best Buy Maclaren Techno XLR travel system. Go to www.which.co.uk/pushchairs and www.which.co.uk/childseats for more.



Best Buy
Ziko Herbie

Contacts

Bébé Confort 020 8236 0707
www.bebekonfort.com

Britax 01264 386027
www.britax.co.uk

Chicco 01623 750870
www.chicco.co.uk

Cybex 01692 408802
www.eastcoastnursery.co.uk

Hauck 01978 664362
www.hauckuk.com

Jané 028 9084 9045
www.johnstonprams.co.uk

Mamas & Papas
0845 268 2000
www.mamasandpapas.co.uk

Mothercare 0845 330 4070
www.mothercare.com

Mutsy 01509 816444
www.babystyle.co.uk

Nania 0116 284 4910
Recaro 01926 484111
www.recaro.com

Silver Cross 01756 702412
www.silvercross.co.uk

Other useful contacts

Bromley Borough Council Road Safety 020 8313 4546
www.bromley.gov.uk/transportandstreets/roadsafety

Child Accident Prevention Trust 020 7608 3828
www.capt.org.uk

Child Car Seat Advice
0121 248 2000
www.childcarseats.org.uk

Essex County Council 'Try before you buy' scheme 01268 297593; www.essexcc.gov.uk

Rear Facing: The Way Forward
www.rearfacing.co.uk

Royal Society for the Prevention of Accidents
0121 248 2000; www.rospa.com

MODEL	SPECIFICATION				
	PRICE (£)	TYPE	PART OF A TRAVEL SYSTEM	WEIGHT OF SEAT (kg)	FRONT CRASH
GROUP 0+: BIRTH TO 13kg					
1 MOTHERCARE Meteor ^a	190	I		3.2	★★★★★
2 JANE Strata	112	B	✓	4.4	★★★★★
3 MOTHERCARE Meteor	90	B		3.2	★★★★★
4 CHICCO Auto-fix Plus	100	B	✓	3.8	★★★★★
5 HAUCK Zero Plus	45	B	✓	2.9	★★★★★
6 BEBE CONFORT Babycoque Streety	260	B	✓ ^b	2.8	★★★★★
7 CHICCO Auto-fix Plus ^a	120	B	✓	3.8	★★★★★
8 SILVER CROSS Ventura Plus	100	B		3.9	★★★★★
9 MAMAS & PAPAS Pro-Sleep IP	130	B	✓	5.9	★★★★★
10 MAMAS & PAPAS Primo Viaggio IP ^a	210	B	✓	5.1	★★★★★
11 MAMAS & PAPAS Primo Viaggio IP	110	B	✓	5.1	★★★★★
12 MUTSY Safe 2 Go	100	B		4.3	★★★★★
GROUP 1: CHILDREN 9kg TO 18kg					
13 BRITAX Explora Isofix	230	I		13.4	★★★★★
14 MAMAS & PAPAS Pro Tec Isofix	230	I		11.8	★★★★★
15 BEBE CONFORT Axiss	180	B		11	★★★★★
16 BRITAX Explora ^c	230	B		13.4	★★★★★
17 MOTHERCARE Motion	100	B		7.1	★★★★★
GROUP 1, 2, 3: CHILDREN 9kg TO 36kg					
18 NANIA Beline SP	50	B		5.1	★★★★★
19 MAMAS & PAPAS Teko	70	B		5.9	★★★★★
GROUP 2, 3: CHILDREN 15kg TO 36kg					
20 CYBEX Solution X	110	B		5.3	★★★★★
21 SILVER CROSS Navigator	100	B		6.6	★★★★★
22 JANE Indy Plus Team	115	I		6.7	★★★★★
23 NANIA Dreamfix SP	47	B		4.7	★★★★★
24 RECARO Monza	95	B		5.2	★★★★★
25 MAMAS & PAPAS Pro-Gro	95	B		6.6	★★★★★

^a With base ^b Available as part of the Streety travel system only – full system price quoted ^c This is the same seat as the Britax

USING THE TABLE

We tested latest models from leading brands. The more stars the better.

Specification

Price For Best Buys, we give the cheapest, widely available high-street

price. If we couldn't find them at major high-street shops, we give the most common online price. However, we advise against buying a child car seat online, as this usually doesn't allow you to try the seat out first. Prices for other models

are a guide. **Type** B = belted; I = Isofix.

Test performance

We consider as many configurations as the manufacturer instructions recommend for each seat. We show the scores for the worst-case

WHICH? TEST PERFORMANCE								SCORE %
SIDE CRASH	OVERALL CRASH SAFETY	EASE OF USE AND COMFORT	AVOIDING INCORRECT INSTALLATION	FITTING IN CAR	INSTRUCTIONS	COMFORT FOR THE CHILD	EASE OF CLEANING	
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	79
★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★★	★★★★★	77
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★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★★	48
★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	46

Explorer Isofix (13). The results show how the seat performed when secured with a seat belt, rather than using Isofix

mode of use for each seat.

Front crash/Side crash

We simulated crashes with forces used in Euro NCap car crash tests. These reflect what happens in serious front and side crashes. **Overall crash safety** Includes seat design, head support and

stability of the child seat in the car seat, as well as front and side crash performance. A front, side or overall crash score of one star limits the total test score a model can achieve. We consider as many configurations as the manufacturer

instructions recommend for each seat. We show the scores for the worst-case mode of use for each seat. **Ease of use and comfort** Includes how easily the belt threads through the seat and how easy it is to strap the child in securely.

Avoiding incorrect installation

How well-designed the seat is to avoid inadvertent misuse. Incorrect installation could compromise seat performance in a crash. **Fitting in car** How easy it is to install and adjust the seat correctly in a car.

Instructions

How clear and comprehensible the instructions and labels that come with each seat are.

Score

This ignores price and is based on:

Safety **60%**
Ease of use **40%**

ESSENTIAL INFO

Protecting premature babies

We regularly receive queries about car seats for pre-term babies.

Farid Bendjellal from Britax told us: 'For pre-term and newborn babies, lying flat is ideal for comfort and to reduce the chances of apnea (respiratory problems). But for crash protection, near-vertical is ideal – however, this presents risks of apnea. Hence, a compromise of around 45° is usually chosen for Group 0+ seats.'

In our tests we haven't found any carrycots and lie-flat seats that protect satisfactorily. Britax is launching one soon which it says overcomes the limitations – we'll test it when it's available.

Consult your doctor before transporting a pre-term baby by car, and keep travel times to a minimum for all newborns.

SPECIAL OFFER

Make sure your baby gets the best

Written in a clear and accessible style, *Baby and Toddler Essentials* provides step-by-step advice on everything you need, including child car seats, feeding equipment, highchairs, safety guidelines, internet shopping and much more.

To order at £9.99 (normal price £10.99) including free p&p, call 01903 828557 and quote BTW0608 and ISBN 978 1 84490 035 0. Offer closes 30 June 2008.

