

New Medicine Recommendation

Stiripentol (Diacomit)

Indication: Adjunctive therapy of refractory generalised tonic-clonic seizures in patients over the age of 18 years who were previously diagnosed with severe myoclonic epilepsy in infancy (Dravet syndrome) whose seizures are not adequately controlled with clobazam and valproate

Recommendation: RED (for all ages) for continuation of treatment of patients who have previously received the drug during childhood under the NHSE standard contract for paediatric neurosciences – neurology.

Not to be newly initiated in adults.

- Medicine is supplied by the hospital for the duration of the treatment course.
- Primary care initiation or continuation of treatment is not recommended unless exceptional circumstances such as specialist GP.

Red medicines are those where primary care prescribing is not recommended. These treatments should be initiated by specialists only and prescribing retained within secondary care. They require specialist knowledge, intensive monitoring, specific dose adjustments or further evaluation in use. If however, a primary care prescriber has particular specialist knowledge or experience of prescribing a particular drug for a particular patient it would not always be appropriate for them to expect to transfer that prescribing responsibility back to secondary care. There should be a specific reason and a specific risk agreement, protocol and service set up to support this.

Primary care prescribers may prescribe RED medicines in exceptional circumstances to patients to ensure continuity of supply while arrangements are made to obtain on going supplies from secondary care.

Summary of supporting evidence:

SPC – For patients ≥ 18 years of age, the SPC advises: Long-term data has not been collected in a sufficient number of adults to confirm maintenance of effect in this population. Treatment should be continued for as long as efficacy is observed.¹⁻⁴

NICE CG137 - If first-line treatments in children, young people and adults with Dravet Syndrome are ineffective or not tolerated, consider clobazam or stiripentol as adjunctive treatment.⁶

Audit of use of stiripentol in adults with Dravet syndrome¹⁴

A small observational clinical audit in the epilepsy service of the National Hospital for Neurology and Neurosurgery, London included 13 stiripentol treated adult subjects with Dravet syndrome (eight females, five males). The responder (defined as more than 50% reduction in all seizure types) rate was 3/13 (23%) at 36 months. The following other outcomes were reported:

- seizure exacerbation (3/13, 23%)
- no change (3/13, 23%)
- less than 50% reduction in seizures (2/13, 15%),
- more than 50% reduction in generalized tonic-clonic seizures but no other seizure types (1/13, 8%)

- undefined response (1/13, 8%)

The retention rate was 62% after 1 year and 31% after 5 years. Adverse effects were reported in 7/13 (54%): the most frequent were anorexia, weight loss, unsteadiness and tiredness. Withdrawal due to adverse effects occurred in 3/13 (23%). The audit was small, but supports the use of stiripentol in adults with Dravet syndrome when first-line treatments are ineffective or not tolerated, in keeping with published guidelines.

Do children with Dravet syndrome continue to benefit from stiripentol for long through adulthood¹⁶

Longitudinal data were collected from the last visit prior to age 15 years (V_{15y}) to the last visit in adulthood (V_{adult}) in 40 Dravet syndrome patients (32 typical, eight atypical) of a French historical cohort of subjects who continued stiripentol from childhood or adolescence to adulthood. At V_{adult} (18-40 years, median = 23 years), all the patients were still receiving stiripentol, co-prescribed with clobazam (40/40), valproate (39/40), and topiramate (21/40).

Between V_{15y} and V_{adult} , stiripentol was interrupted in five patients (two for adverse events) but reintroduced following seizure aggravation. Loss of appetite affected 15 of 40 patients but resolved after reducing the dose of stiripentol or valproate; no other new stiripentol-related adverse events were reported. Mean stiripentol dose was progressively decreased from 39 to 25 mg/kg/d ($P = 0.0002$), whereas clobazam (0.27 mg/kg/d) and valproate (14 mg/kg/d) remained stable.

At V_{adult} , of the 40 patients:

- 3 patients (7.5%) were seizure free
- 27 patients (68%) had a generalized tonic-clonic seizure (GTCS) frequency of <1 / week
- 36 patients (90%) had a GTCS duration of <1 minute
- 10 patients (25%) exhibited periods of at least 1 year without GTCS (median = 2 years, up to 4.7 years).

There were no cases of status epilepticus after 25 years of age, 1 patient exhibited myoclonus and other seizures were greatly reduced.

All patients had intellectual disability at V_{15y} , but retardation was more severe at V_{adult} ($P = 0.03$). Furthermore, neurological/gait condition had declined (two patients became bedridden) and behaviour had worsened ($P < 0.0002$). Nevertheless, the 33 patients on stiripentol from infancy/childhood tended to have better seizure outcome in mid-adulthood than the seven treated from adolescence (>15 years) and from patients treated from adult age or stiripentol-naive subjects reported in the literature.

The study concluded that the efficacy and safety of the stiripentol/valproate/clobazam combination started at paediatric age are maintained at very long term during adulthood. Such prolonged stiripentol therapy tends to positively impact the late prognosis of epilepsy, especially when initiated before adolescence.

Details of Review

Name of medicine: Stiripentol (Diacomit)

Strength(s) and form(s): Stiripentol (Diacomit) 250 mg powder for oral suspension in sachet,¹ Stiripentol (Diacomit) 250mg hard capsules,² Stiripentol (Diacomit) 500 mg powder for oral suspension in sachet,³ Stiripentol (Diacomit) 500mg hard capsules.⁴

Dose and administration¹⁻⁴

The initiation of adjunctive therapy with stiripentol should be undertaken gradually using upwards dose escalation to reach the recommended dose of 50 mg/kg/day administered in conjunction with clobazam and valproate.

Stiripentol dosage escalation should be gradual, starting with 20mg/kg/day for 1 week, then 30mg/kg/day for 1 week. Further dosage escalation is age dependent:

- children less than 6 years should receive an additional 20 mg/kg/day in the third week, thus achieving the recommended dose of 50 mg/kg/day in three weeks;
- children from 6 to less than 12 years should receive an additional 10 mg/kg/day each week, thus achieving the recommended dose of 50 mg/kg/day in four weeks;
- children and adolescents 12 years and older should receive an additional 5 mg/kg/day each week until the optimum dose is reached based on clinical judgment.

The recommended dose of 50 mg/kg/day is based on the available clinical study findings and was the only dose of stiripentol evaluated in the pivotal studies.

Long-term data has not been collected in a sufficient number of patients aged 18 years and above to confirm maintenance of effect in this population. Treatment should be continued for as long as efficacy is observed.

The daily dosage may be administered in 2 or 3 divided doses.

The sachet formulation has a slightly higher C_{max} than the capsules and thus the formulations are not bioequivalent. It is recommended that if a switch of formulations is required this is done under clinical supervision, in case of problems with tolerability.

Stiripentol must always be taken with food as it degrades rapidly in an acidic environment (e.g. exposure to gastric acid in an empty stomach).

Stiripentol should not be taken with milk or dairy products (yoghurt, soft cream cheese, etc.), carbonated drinks, fruit juice or food and drinks that contain caffeine or theophylline.

BNF therapeutic class / mode of action: Nervous System / Epilepsy

Licensed indication(s): Diacomit is indicated for use in conjunction with clobazam and valproate as adjunctive therapy of refractory generalized tonic-clonic seizures in patients with severe myoclonic epilepsy in infancy (SMEI, Dravet syndrome) whose seizures are not adequately controlled with clobazam and valproate.¹⁻⁴

Proposed use (if different from, or in addition to, licensed indication above):

As per licence and for continued use in adults (≥ 18 years of age) whose seizures have previously been well controlled with stiripentol as children.

Course and cost:

NHS List Price (August 2019)⁵

Stiripentol 250mg capsules x 60 = £284.00

Stiripentol 250mg oral powder sachets x 60 = £284.00

Stiripentol 500mg capsules x 60 = £493.00

Stiripentol 500mg oral powder sachets x 60 = £493.00

Ongoing course, assuming the average adult weight is 75kg, at the recommended dose of 50mg/kg/day the average daily dose will be 3750mg i.e. 7x500mg plus 1x250mg costing £62.25.

The estimated **monthly cost** per patient on the recommended dose is **£1,867.50**

The estimated **annual cost** per patient on the recommended dose is **£22,721.25**

Current standard of care/comparator therapies: N/A

Relevant NICE guidance: NICE Clinical Guideline CG137 Epilepsies: diagnosis and management.⁶

NICE CG137 recommends sodium valproate or topiramate should be considered as first-line treatment in children with Dravet syndrome and to discuss with a tertiary epilepsy specialist if these first-line treatments in children, young people and adults with Dravet syndrome are ineffective or not tolerated, and consider clobazam or stiripentol as adjunctive treatment. Do not offer carbamazepine, gabapentin, lamotrigine, oxcarbazepine, phenytoin, pregabalin, tiagabine or vigabatrin.

Many children with Dravet syndrome seem to respond best to a specific combination of 3 epilepsy medicines. This combination is sodium valproate, stiripentol and clobazam.⁷

NICE TAs currently in development:

- Cannabidiol for adjuvant treatment of seizures associated with Dravet syndrome.
Expected publication date: 18 December 2019
- Fenfluramine for treating Dravet syndrome.
Expected publication date: 20 November 2019

Background and context

Introduction

Dravet syndrome (DS) is a severe form of epilepsy characterized by frequent, prolonged seizures often triggered by high body temperature (hyperthermia), developmental delay, speech impairment, ataxia, hypotonia, sleep disturbances, and other health problems. In most cases, the cause is a mutation in the sodium channel type 1 alpha subunit gene, SCN1A.

DS is thought to be at the severe end of a spectrum of disorders associated with changes (mutations) in genes for the sodium ion channel. DS is considered an epileptic encephalopathy, or disorder of the brain due to seizures. In addition, it is considered a “channelopathy” because the effects of the mutation on the sodium channel appear to contribute to the disorder independently of the seizures. DS appears during the first year of life in an otherwise healthy infant, usually with a generalized tonic clonic or hemiclonic seizure which is often prolonged (>5 minutes). In a retrospective survey of 138 children with Dravet syndrome with SCN1A mutations from China, seizure onset was before the age of 7 months in 77%. 72% of the children in that study had febrile seizures with a duration longer than 15 minutes, and 67% had two or more febrile seizures within a 24-hour period. Seizures were hemiclonic with fever in 80%.⁸

Developmental delays often appear in the 2nd and 3rd years of life.⁹ Delay can range from mild (rare) to moderate/severe (common), and most adult patients are dependent on caregivers.¹⁰ Developmental delay, speech impairment, crouched gait, hypotonia, lack of coordination, and impaired dexterity are evident.

Dravet Syndrome in Adults

Dravet syndrome cases are increasingly recognized in adulthood, and many children with DS survive to adulthood. In older children and adults, seizures persist, though status epilepticus becomes less frequent with time. Myoclonic, atypical absence and focal seizures with altered awareness are less common in adulthood.¹¹ The most common seizure type in adulthood is generalized tonic-clonic, which may be focal in onset and occurs mainly during sleep. Patients may also experience bilateral or asymmetrical posturing, which may be followed by tonic

vibratory or clonic movements. However, there are few studies that describe in detail the electroclinical features of the seizure types in Dravet syndrome during adolescence or adulthood.¹² In a long-term study of 53 children aged 4 to 14 years who were followed from 3 to 14 years, seizure frequency was weekly in 74%, monthly in 13% and daily in 13%.¹³

Currently, the commissioning of stiripentol in children is covered by E09/S/b NHSE standard contract for paediatric neurosciences – neurology. However, on the patient reaching 19 years of age, commissioning reverts to the local CCG.

Summary of evidence

Summary of efficacy data in proposed use:

SPC - Patients aged ≥ 18 years of age: Long-term data has not been collected in a sufficient number of adults to confirm maintenance of effect in this population. Treatment should be continued for as long as efficacy is observed.¹⁻⁴

NICE CG137 - If first-line treatments in children, young people and adults with Dravet syndrome are ineffective or not tolerated, consider clobazam or stiripentol as adjunctive treatment.⁶

Audit of use of stiripentol in adults with Dravet syndrome¹⁴

An observational clinical audit in the epilepsy service of the National Hospital for Neurology and Neurosurgery, London included all adults (>18 years) with DS attending the epilepsy service with previous or current treatment with stiripentol, from January 2001 to July 2015 (n=13). DS was defined according to the following clinical criteria: seizure onset in the first year of life, with prior normal psychomotor development, intractable epileptic seizures triggered by infections and increased temperature, with no evidence of structural-metabolic aetiology. The frequency of seizures (of any type) at the time of stiripentol introduction varied from daily to weekly. The daily dose varied from 250 mg to 3000 mg with a mean maximum daily dose of 1604 mg.

The average time of exposure to stiripentol was 42 months (range 3–139), the observed effects were as follows:

- 3 patients (23%) had more than a 50% reduction in frequency of all seizure types.
- 2 patients (15%) had less than 50% reduction in frequency of all seizure types
- 3 patients (23%) had no change in seizure frequency
- 1 patient (8%) had more than 50% reduction in frequency of generalized tonic-clonic seizures (GTCS) but no change in frequency of other seizure types
- 3 patients (23%) had seizure exacerbation
- 1 patient (8%) had an undefined response
- 1 patient had initially more than 50% reduction in frequency of GTCs, from weekly to monthly GTCs with a 45 day period without any GTCs, and became then free of GTCs for about 12 months, followed by GTCs recurrence precipitated by intense physical exercise.
- Before introduction of stiripentol, 8 patients (62%) had had from one to multiple episodes of status epilepticus. Of these patients, 4 had no further episodes of status after the introduction of stiripentol until the latest follow-up, over an average time of 43 months (range 3–139) on stiripentol.
- Withdrawal due to lack of efficacy occurred in 4 cases (31%).

In 7 patients (54%), treatment was still ongoing at the time of the audit, after they had been on stiripentol for an average time of 62 months (range 10–139). Various individualised medication changes were undertaken including the introduction of clobazam, carbamazepine and sodium valproate and the withdrawal of phenytoin. In 1 patient topiramate was withdrawn, sodium valproate, levetiracetam, zonisamide and perampanel were introduced sequentially and a

vagus nerve stimulator was recently inserted. 1 patient did not have any changes to concurrent anti-epileptic drugs.

The retention rate was 62% after 1 year and 31% after 5 years. Adverse effects were reported in 7/13 (54%): the most frequent were anorexia, weight loss, unsteadiness and tiredness. Withdrawal due to adverse effects occurred in 3/13 (23%).

The responder rate in the cohort was lower than that from studies in children with DS. Not enough data on adult DS cases treated with stiripentol are available to make adequate comparisons with these findings. It was noted that some adults had no useful response to stiripentol.

The study concluded that stiripentol use may lead to improved seizure control, with reduction of hospitalization costs and subsequent better health-care service utilisation, as previously shown.¹⁵

Do children with Dravet syndrome continue to benefit from stiripentol for long through adulthood¹⁶

Longitudinal data were collected from the last visit prior to age 15 years (V_{15y}) to the last visit in adulthood (V_{adult}) in the 40 DS patients (32 typical, eight atypical) of a French historical cohort of subjects who continued stiripentol from childhood or adolescence to adulthood.

Stiripentol was initiated at a median age of 6.3 years (0.8-20.9 years), as an adjunctive therapy to clobazam and valproate in respectively all and all but one case, and before the age of 15 years in 79% of cases.

Last visit prior to age 15 years

At the last visit prior to age 15 years (V_{15y}), 33 patients were already on stiripentol, the other 7 had not yet received it. Comedication was clobazam in all cases and valproate in all but one, with topiramate in half the cases and additional levetiracetam or clonazepam in 3 patients.

- 39 patients (97.5%) were still experiencing generalised tonic clonic seizures (GTCS)
- 23 patients (58%) had a GTCS frequency of <1 / week
- 27 (67%) patients had a GTCS duration of <1 minute
- Unilateral and alternating seizures had almost disappeared.

Of the 7 patients not receiving stiripentol none were seizure free and only 3 patients (40%) had <1 GTCS / week.

Last visit in adulthood

At the last visit in adulthood (V_{adult}), all 40 patients were on stiripentol with a median exposure of 18 years (up to 24 years) and a median dose of 25mg/kg/day (significantly lower than just before adulthood). The dose of stiripentol had been progressively decreased from adolescence, whereas that of clobazam, valproate and topiramate had remained stable. Comedication was the same as before adulthood.

- 3 patients (7.5%) were seizure free
- 27 patients (68%) had a GTCS frequency of <1 / week
- 36 patients (90%) had a GTCS duration of <1 minute
- 10 patients (25%) exhibited periods of at least 1 year without GTCS (median = 2 years, up to 4.7 years).

There were no cases of status epilepticus after 25 years of age, 1 patient exhibited myoclonus and other seizures were greatly reduced.

Clinical outcomes observed during study

Characteristics	Last visit before age 15 years, n = 33	Last visit before adulthood, n = 40	Last visit in adulthood, n = 40
Age, y, median (range)	14.7 (11.5-15)	17.7 (15.3-21)	22.8 (18.4-39.6)
Stiripentol onset, y, median (range)	5.1 (0.8-14.7)	6.3 (0.8-20.9)	Idem
Stiripentol duration, y, median (range)	9.4 (0.2-14)	10.9 (0.2-17)	18.2 (2.8-23.5)
GTCSs, median past month seizure frequency (Q1-Q3)	3 (1-8)	4 (1.5-12)	3.5 (1-7)
GTCSs, n	33	40	40
Convulsive status epilepticus	3/31	4/37	0/37
Frequency, none; Y; M; W; D	1; 7; 11; 11; 3/33	2; 5; 13; 19; 1/40	3; 11; 13; 10; 3/40
Duration, 0; <1; 1-5; 5-15; >15 min	1; 19; 8; 0; 2/30	2; 25; 8; 0; 0/35	3; 33; 4; 0; 0/40
Mostly nocturnal	26/32	31/38	29/37
Traumatic	6/32	8/38	10/37
Regular frequency	18/30	22/37	19/36
Regular duration	26/29	32/34	35/35
Unilateral	3/27	4/33	2/37
Alternating side	2/28	0/35	0/37
In clusters	15/32	16/37	16/37
Provoked (by fever)	25 (14)/30	24 (15)/30	24 (13)/35
Other seizures, n			
Myoclonia	6/31	5/37	1/37
Absences	1/31	4/37	5/37
Focal	4/31	4/36	4/35
Tonic	2/31	2/37	1/39

It was noted that all attempts to withdraw stiripentol in adulthood resulted in a worsened seizure condition and stiripentol reintroduction was successful in all cases. This would suggest that it is beneficial for patients with Dravet syndrome to continue stiripentol into adulthood if the patient is satisfactorily controlled, along with the same comedication.

The study concluded that: The efficacy and safety of the stiripentol/valproate/clobazam combination started at paediatric age are maintained at very long term during adulthood. Such prolonged stiripentol therapy tends to positively impact the late prognosis of epilepsy, especially when initiated before adolescence.

Summary of safety data:

Undesirable effects¹⁻⁴

The most common side effects with stiripentol are anorexia, weight loss, insomnia, drowsiness, ataxia, hypotonia and dystonia

System Organ Class (MedDRA terminology)	Very common	Common	Uncommon	Rare
Blood and lymphatic system disorders		Neutropenia		Thrombocytopenia *
Metabolism and nutrition disorders	Anorexia, loss of appetite, weight loss			
Psychiatric disorders	Insomnia	Aggressiveness, irritability, behaviour disorders, opposing behaviour, hyperexcitability, sleep disorders		
Nervous system disorders	Drowsiness, ataxia, hypotonia, dystonia	Hyperkinesias		
Eye disorders			Diplopia	
Gastrointestinal disorders		Nausea, vomiting		
Skin and subcutaneous tissue disorders			Photosensitivity, rash, cutaneous allergy, urticaria	
General disorders and administration site conditions			Fatigue	
Investigations		Raised γ -GT		Liver function test abnormal

* Thrombocytopenia data are derived from both clinical trials and post-marketing experience.

Very common ($\geq 1/10$); common ($\geq 1/100$ to $< 1/10$); uncommon ($\geq 1/1,000$ to $< 1/100$); rare ($\geq 1/10,000$ to $< 1/1,000$)

Audit of use of stiripentol in adults with Dravet syndrome¹⁰

Adverse effects were not systemically sought as this was not a prospective study; but were reported in seven cases (54%). These were: anorexia (n=4), weight loss (n=4), unsteadiness (n=3), tiredness/somnolence (n=2), nausea (n=1), abdominal pain (n=1), diarrhoea (n=1), myelodysplasia (thrombocytopenia and neutropenia) (n=1), behavioural disturbance (n=1), increased tremor (n=1). In six cases, reduction or withdrawal of one or two concurrent AEDs was reported. Withdrawal of stiripentol due to adverse effects occurred in three cases (23%): one due to anorexia and weight loss together with lack of efficacy, one due to behavioural disturbance and diarrhoea and one due to anorexia, unsteadiness and increased tremor.

Strengths and limitations of the evidence:

Strengths:

Real life data

In observational studies, stiripentol appears to maintain its efficacy in patients ≥ 18 years of age

Limitations:

No RCT in the over 18 years age group

Very small patient numbers (expected due to rarity of disease) – case series

Comedication / dosage not standardised

In one study as other drug changes were made on clinical grounds, it is not certain that the entire response observed after stiripentol introduction was due solely to stiripentol.

Summary of evidence on cost effectiveness:

Assuming the average adult weight is 75kg, at the recommended dose of 50mg/kg/day the average daily dose will be 3750mg i.e. 7x500mg plus 1x250mg costing £62.25.

The estimated **monthly** cost per patient on the recommended dose is **£1,867.50**

The estimated **annual** cost per patient on the recommended dose is **£22,721.25**

However, the adult data available would suggest a decrease in seizure frequency and therefore potential hospitalisation costs associated with the use of stiripentol. The data would also suggest that a decreased dose of stiripentol in association with use of clobazam and valproate provides efficacy into adulthood leading to a lower potential annual cost.

Prescribing and risk management issues:

N/A

Commissioning considerations:

Innovation, need and equity implications of the intervention:

Orphan drug currently commissioned in children for Dravet Syndrome by NHSE.

If a patient is stable and well controlled on stiripentol on achieving the age of 19 years, it would be ethical to continue treatment for as long as efficacy is maintained.

Financial implications of the intervention:

Dravet Syndrome is classified as a rare disease and stiripentol has been designated as an orphan medicinal product.

It is estimated that out of 500 children with epilepsy only 1-2 will have Dravet syndrome (0.2-0.4%).

An estimation of the birth prevalence of Dravet Syndrome in the UK is 1/ 28,000.¹⁷

Within Lancashire and South Cumbria CCGs in 2018 there were 17,491 live births¹⁸ therefore around 1 baby will be born with Dravet syndrome every 18 months.

The annual cost per patient, if an adult average weight of 75kg is assumed, at a dose of 50mg/kg/day (3750mg = £62.25 / day) is £22,721.25.

However, the studies would suggest that a lower dose maybe used in adult patients which would lead to a decrease in the overall annual cost.

Service Impact Issues Identified:

N/A

Equality and Inclusion Issues Identified:

N/A

Cross Border Issues Identified:

GMMMG are currently reviewing the RAG rating of stiripentol, as the current RED status only applies to paediatric use and may restrict access for existing paediatric patients when they reach adulthood. Additionally, it was felt that there may be a very small cohort of patients who are diagnosed with SCN1A variant epilepsy in adulthood for whom stiripentol may be considered a treatment choice. They are recommending stiripentol be revised to RED and GREY (adults) for use in Dravet Syndrome/ SCN1A variant epilepsy. Items which are listed as Grey are deemed not suitable for routine prescribing but may be suitable for a defined patient population. Whilst prescribers should think very carefully before prescribing or recommending any of the products on the grey list, there may be exceptional instances when the use of one of these products is necessary for a particular patient).

Pan Mersey – no recommendation or RAG rating available

Legal Issues Identified:

N/A

Media/ Public Interest:

N/A

References

¹ SPC Diacomit 250 mg powder for oral suspension in sachet
<https://www.medicines.org.uk/emc/product/10304/smpc>

² SPC Diacomit 250mg hard capsules <https://www.medicines.org.uk/emc/product/10300/smpc>

³ SPC Diacomit 500 mg powder for oral suspension in sachet
<https://www.medicines.org.uk/emc/product/10308/smpc>

⁴ SPC Diacomit 500mg hard capsules <https://www.medicines.org.uk/emc/product/10305/smpc>

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- ⁵ NHS Electronic Drug Tariff August 2019 <http://www.drugtariff.nhsbsa.nhs.uk/#/00726198-DD/DD00726044/Part%20VIII%20products%20S>
- ⁶ NICE Clinical Guideline CG137 Epilepsies: diagnosis and management <https://www.nice.org.uk/guidance/cg137>
- ⁷ Epilepsy Action – Advice and Information, Dravet Syndrome <https://www.epilepsy.org.uk/info/syndromes/dravet-syndrome>
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- ¹⁶ Chiron et al 2018. Do children with Dravet syndrome continue to benefit from stiripentol for long through adulthood. *Epilepsia.* 2018 Sep;59(9):1705-1717 <https://www.ncbi.nlm.nih.gov/pubmed/30132836>
- ¹⁷ Orphanet – the portal for rare diseases and orphan drugs [https://www.orpha.net/consor/cgi-bin/Disease_Search.php?Ing=EN&data_id=10307&Disease_Disease_Search_diseaseGroup=dravets-syndrome&Disease_Disease_Search_diseaseType=Pat&Disease\(s\)/group%20of%20diseases=Dravet-syndrome&title=Dravet%20syndrome&search=Disease_Search_Simple](https://www.orpha.net/consor/cgi-bin/Disease_Search.php?Ing=EN&data_id=10307&Disease_Disease_Search_diseaseGroup=dravets-syndrome&Disease_Disease_Search_diseaseType=Pat&Disease(s)/group%20of%20diseases=Dravet-syndrome&title=Dravet%20syndrome&search=Disease_Search_Simple)
- ¹⁸ Office for National Statistics – live births in England and Wales down to local CCG level <https://www.nomisweb.co.uk/query/construct/submit.asp?menuopt=201&subcomp=>

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