

## SUMMARY OF PRODUCT CHARACTERISTICS

### 1. NAME OF THE MEDICINAL PRODUCT

DUROGESIC 12 micrograms/hour transdermal patch  
DUROGESIC 25 micrograms/hour transdermal patch  
DUROGESIC 50 micrograms/hour transdermal patch  
DUROGESIC 75 micrograms/hour transdermal patch  
DUROGESIC 100 micrograms/hour transdermal patch

### 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

	DUROGESIC dose (µg/hour)	Patch size (cm <sup>2</sup> )	Quantity of fentanyl per patch (mg)
DUROGESIC 12 µg/hour	12 <sup>1</sup>	5.25	2.1
DUROGESIC 25 µg/hour	25	10.5	4.2
DUROGESIC 50 µg/hour	50	21.0	8.4
DUROGESIC 75 µg/hour	75	31.5	12.6
DUROGESIC 100 µg/hour	100	42.0	16.8

<sup>1</sup> The lowest dose is stated as 12 µg/hour (however, the actual dose is 12.5 µg/hour) in order to distinguish it from a dose of 125 µg/hour that could be prescribed by using multiple patches.

For the full list of excipients, see section 6.1.

### 3. PHARMACEUTICAL FORM

Transdermal patch.

DUROGESIC is a translucent, rectangular transdermal patch with rounded corners. Each patch is marked in coloured printing ink as follows:

#### DUROGESIC 12 µg/hour

Each patch is 5.25 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 12 µg fentanyl/h” in orange printing ink.

#### DUROGESIC 25 µg/hour

Each patch is 10.5 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 25 µg fentanyl/h” in red printing ink.

#### DUROGESIC 50 µg/hour

Each patch is 21.0 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 50 µg fentanyl/h” in green printing ink.

#### DUROGESIC 75 µg/hour

Each patch is 31.5 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 75 µg fentanyl/h” in blue printing ink.

#### DUROGESIC 100 µg/hour

Each patch is 42.0 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 100 µg fentanyl/h” in grey printing ink.

## 4. CLINICAL PARTICULARS

### 4.1 Therapeutic indications

#### Adults

DUROGESIC is indicated for management of severe chronic pain that requires continuous long-term opioid administration.

#### Children

Long-term management of severe chronic pain in children from 2 years of age who are receiving opioid therapy.

### 4.2 Posology and method of administration

#### Posology

DUROGESIC doses should be individualised based upon the status of the patient and should be assessed at regular intervals after application. The lowest effective dose should be used. The patches are designed to deliver approximately 12, 25, 50, 75, and 100 mcg/h fentanyl to the systemic circulation, which represent about 0.3, 0.6, 1.2, 1.8, and 2.4 mg per day respectively.

#### Initial dosage selection

The appropriate initiating dose of DUROGESIC should be based on the patient's current opioid use. It is recommended that DUROGESIC be used in patients who have demonstrated opioid tolerance. Other factors to be considered are the current general condition and medical status of the patient, including body size, age, and extent of debilitation as well as degree of opioid tolerance.

#### Adults

##### Opioid-tolerant patients

To convert opioid-tolerant patients from oral or parenteral opioids to DUROGESIC refer to Equianalgesic potency conversion below. The dosage may subsequently be titrated upwards or downwards, if required, in increments of either 12 or 25 mcg/h to achieve the lowest appropriate dosage of DUROGESIC depending on response and supplementary analgesic requirements.

##### Opioid-naïve patients

Generally, the transdermal route is not recommended in opioid-naïve patients. Alternative routes of administration (oral, parenteral) should be considered. To prevent overdose it is recommended that opioid-naïve patients receive low doses of immediate-release opioids (e.g. morphine, hydromorphone, oxycodone, tramadol, and codeine) that are to be titrated until an analgesic dosage equivalent to DUROGESIC with a release rate of 12 mcg/h or 25 mcg/h is attained. Patients can then switch to DUROGESIC.

In the circumstance in which commencing with oral opioids is not considered possible and DUROGESIC is considered to be the only appropriate treatment option for opioid-naïve patients, only the lowest starting dose (i.e. 12 mcg/h) should be considered. In such circumstances, the patient must be closely monitored. The potential for serious or life-threatening hypoventilation exists even if the lowest dose of DUROGESIC is used in initiating therapy in opioid-naïve patients (see sections 4.4 and 4.9).

#### Equianalgesic potency conversion

In patients currently taking opioid analgesics, the starting dose of DUROGESIC should be based on the daily dose of the prior opioid. To calculate the appropriate starting dose of DUROGESIC, follow the steps below.

1. Calculate the 24-hour dose (mg/day) of the opioid currently being used.
2. Convert this amount to the equianalgesic 24-hour oral morphine dose using the multiplication factors in Table 1 for the appropriate route of administration.

3. To derive the DUROGESIC dosage corresponding to the calculated 24-hour, equianalgesic morphine dosage, use dosage-conversion Table 2 or 3 as follows:
  - a. Table 2 is for adult patients who have a need for opioid rotation or who are less clinically stable (conversion ratio of oral morphine to transdermal fentanyl approximately equal to 150:1).
  - b. Table 3 is for adult patients who are on a stable, and well-tolerated, opioid regimen (conversion ratio of oral morphine to transdermal fentanyl approximately equal to 100:1).

**Table 1: Conversion Table - Multiplication Factors for Converting the Daily Dose of Prior Opioids to the Equianalgesic 24-hour Oral Morphine Dose (mg/day Prior Opioid x Factor = Equianalgesic 24-hour Oral Morphine Dose)**

Prior Opioid	Route of Administration	Multiplication Factor
morphine	oral	1 <sup>a</sup>
	parenteral	3
buprenorphine	sublingual	75
	parenteral	100
codeine	oral	0.15
	parenteral	0.23 <sup>b</sup>
diamorphine	oral	0.5
	parenteral	6 <sup>b</sup>
fentanyl	oral	-
	parenteral	300
hydromorphone	oral	4
	parenteral	20 <sup>b</sup>
ketobemidone	oral	1
	parenteral	3
levorphanol	oral	7.5
	parenteral	15 <sup>b</sup>
methadone	oral	1.5
	parenteral	3 <sup>b</sup>
oxycodone	oral	1.5
	parenteral	3
oxymorphone	rectal	3
	parenteral	30 <sup>b</sup>
pethidine	oral	-
	parenteral	0.4 <sup>b</sup>
tapentadol	oral	0.4
	parenteral	-
tramadol	oral	0.25
	parenteral	0.3

<sup>a</sup> The oral/IM potency for morphine is based on clinical experience in patients with chronic pain.

<sup>b</sup> Based on single-dose studies in which an IM dose of each active substance listed was compared with morphine to establish the relative potency. Oral doses are those recommended when changing from a parenteral to an oral route.

Reference: Adapted from 1) Foley KM. The treatment of cancer pain. NEJM 1985; 313 (2): 84-95 and 2) McPherson ML. Introduction to opioid conversion calculations. In: Demystifying Opioid Conversion Calculations: A Guide for Effective Dosing. Bethesda, MD: American Society of Health-System Pharmacists; 2010:1-15.

**Table 2: Recommended starting dosage of DUROGESIC based upon daily oral morphine dose (for patients who have a need for opioid rotation or for clinically less stable patients: conversion ratio of oral morphine to transdermal fentanyl is approximately equal to 150:1)<sup>1</sup>**

<b>Oral 24-hour morphine (mg/day)</b>	<b>DUROGESIC Dosage (mcg/h)</b>
< 90	12
90-134	25
135-224	50
225-314	75
315-404	100
405-494	125
495-584	150
585-674	175
675-764	200
765-854	225
855-944	250
945-1 034	275
1 035-1 124	300

<sup>1</sup> In clinical studies these ranges of daily oral morphine doses were used as a basis for conversion to DUROGESIC.

**Table 3: Recommended starting dosage of DUROGESIC based upon daily oral morphine dosage (for patients on stable and well tolerated opioid therapy: conversion ratio of oral morphine to transdermal fentanyl is approximately equal to 100:1)**

<b>Oral 24-hour morphine (mg/day)</b>	<b>DUROGESIC Dosage (mcg/h)</b>
≤ 44	12
45-89	25
90-149	50
150-209	75
210-269	100
270-329	125
330-389	150
390-449	175
450-509	200
510-569	225
570-629	250
630-689	275
690-749	300

Initial evaluation of the maximum analgesic effect of DUROGESIC cannot be made before the patch is worn for 24 hours. This delay is due to the gradual increase in serum fentanyl concentration in the 24 hours following initial patch application.

Previous analgesic therapy should therefore be gradually phased out after the initial dose application until analgesic efficacy with DUROGESIC is attained.

#### Dose titration and maintenance therapy

The DUROGESIC patch should be replaced every 72 hours.

The dose should be titrated individually on the basis of average daily use of supplemental analgesics, until a balance between analgesic efficacy and tolerability is attained. Dosage titration should normally be performed in 12 mcg/h or 25 mcg/h increments, although the supplementary analgesic requirements (oral morphine 45/90 mg/day ≈ DUROGESIC 12/25 mcg/h) and pain status of the patient should be

taken into account. After an increase in dose, it may take up to 6 days for the patient to reach equilibrium on the new dose level. Therefore after a dose increase, patients should wear the higher dose patch through two 72-hour applications before any further increase in dose level is made.

More than one DUROGESIC patch may be used for doses greater than 100 mcg/h. Patients may require periodic supplemental doses of a short acting analgesic for “breakthrough” pain. Some patients may require additional or alternative methods of opioid administration when the DUROGESIC dose exceeds 300 mcg/h.

In the absence of adequate pain control, the possibility of hyperalgesia, tolerance and progression of underlying disease should be considered (see section 4.4).

If analgesia is insufficient during the first application only, the DUROGESIC patch may be replaced after 48 hours with a patch of the same dose, or the dose may be increased after 72 hours.

If the patch needs to be replaced (e.g. the patch falls off) before 72 hours, a patch of the same strength should be applied to a different skin site. This may result in increased serum concentrations (see section 5.2) and the patient should be monitored closely.

#### Treatment duration and goals

Before initiating treatment with DUROGESIC, a treatment strategy including treatment duration and treatment goals, and a plan for end of the treatment, should be agreed together with the patient, in accordance with pain management guidelines. During treatment, there should be frequent contact between the physician and the patient to evaluate the need for continued treatment, consider discontinuation and to adjust dosages if needed. In absence of adequate pain control, the possibility of hyperalgesia, tolerance and progression of underlying disease should be considered (see section 4.4).

#### Discontinuation of DUROGESIC

If discontinuation of DUROGESIC is necessary, replacement with other opioids should be gradual, starting at a low dose and increasing slowly. This is because fentanyl concentrations fall gradually after DUROGESIC is removed. It may take 20 hours or more for the fentanyl serum concentrations to decrease 50%. In general, the discontinuation of opioid analgesia should be gradual in order to prevent withdrawal symptoms (see sections 4.4 and 4.8). There have been reports that rapid discontinuation of opioid analgesics in patients who are physically dependent on opioids has resulted in serious withdrawal symptoms and uncontrolled pain. Tapering should be based on the individual dose, treatment duration and response of the patient regarding pain and withdrawal symptoms. Patients on long-term treatment may need a more gradual tapering. For patients who had been treated for a short period, a faster reduction schedule may be considered.

Opioid withdrawal symptoms are possible in some patients after conversion or dose adjustment.

Tables 1, 2, and 3 should only be used to convert from other opioids to DUROGESIC and not from DUROGESIC to other therapies to avoid overestimating the new analgesic dose and potentially causing overdose.

#### Special populations

##### *Elderly patients*

Elderly patients should be observed carefully and the dose should be individualised based upon the status of the patient (see sections 4.4 and 5.2).

In opioid-naïve elderly patients, treatment should only be considered if the benefits outweigh the risks. In these cases, only DUROGESIC 12 mcg/h dosage should be considered for initial treatment.

### *Renal and hepatic impairment*

Patients with renal or hepatic impairment should be observed carefully and the dose should be individualised based upon the status of the patient (see sections 4.4 and 5.2).

In opioid-naïve patients with renal or hepatic impairment, treatment should only be considered if the benefits outweigh the risks. In these cases, only DUROGESIC 12 mcg/h dosage should be considered for initial treatment.

### *Paediatric population*

*Children aged 16 years and above*  
Follow adult dosage.

#### *Children 2 to 16 years old*

DUROGESIC should be administered to only those opioid-tolerant paediatric patients (ages 2 to 16 years) who are already receiving at least 30 mg oral morphine equivalents per day. To convert paediatric patients from oral or parenteral opioids to DUROGESIC, refer to Equianalgesic potency conversion (Table 1) and Recommended DUROGESIC dosage based upon daily oral morphine dose (Table 4).

**Table 4: Recommended DUROGESIC dosage for paediatric patients<sup>1</sup> based upon daily oral morphine dose<sup>2</sup>**

<b>Oral 24-hour morphine (mg/day)</b>	<b>DUROGESIC Dosage (mcg/h)</b>
30-44	12
45-134	25

<sup>1</sup> Conversion to DUROGESIC dosages greater than 25 mcg/h is the same for paediatric patients as it is for adult patients (see Table 2).

<sup>2</sup> In clinical studies these ranges of daily oral morphine doses were used as a basis for conversion to DUROGESIC.

In two paediatric studies, the required fentanyl transdermal patch dose was calculated conservatively: 30 mg to 44 mg oral morphine per day or its equivalent opioid dose was replaced by one DUROGESIC 12 mcg/h patch. It should be noted that this conversion schedule for children only applies to the switch from oral morphine (or its equivalent) to DUROGESIC patches. The conversion schedule should not be used to convert from DUROGESIC into other opioids, as overdosing could then occur.

The analgesic effect of the first dose of DUROGESIC patches will not be optimal within the first 24 hours. Therefore, during the first 12 hours after switching to DUROGESIC, the patient should be given the previous regular dose of analgesics. In the next 12 hours, these analgesics should be provided based on clinical need.

Monitoring of the patient for adverse events, which may include hypoventilation, is recommended for at least 48 hours after initiation of DUROGESIC therapy or up-titration of the dose (see section 4.4).

DUROGESIC should not be used in children aged less than 2 years because the safety and efficacy have not been established.

### *Dose titration and maintenance in children*

The DUROGESIC patch should be replaced every 72 hours. The dose should be titrated individually until a balance between analgesic efficacy and tolerability is attained. Dosage must not be increased in intervals of less than 72 hours. If the analgesic effect of DUROGESIC is insufficient, supplementary morphine or another short-duration opioid should be administered. Depending on the additional analgesic needs and the pain status of the child, it may be decided to increase the dose. Dose adjustments should be done in 12 mcg/h steps.

### Method of administration

DUROGESIC is for transdermal use.

DUROGESIC should be applied to non-irritated and non-irradiated skin on a flat surface of the torso or upper arms.

In young children, the upper back is the preferred location to minimise the potential of the child removing the patch.

Hair at the application site (a non-hairy area is preferable) should be clipped (not shaved) prior to application. If the site of DUROGESIC application requires cleansing prior to application of the patch, this should be done with clear water. Soaps, oils, lotions, or any other agent that might irritate the skin or alter its characteristics should not be used. The skin should be completely dry before the patch is applied. Patches should be inspected prior to use. Patches that are cut, divided, or damaged in any way should not be used.

DUROGESIC should be applied immediately upon removal from the sealed package. To remove the patch from the protective sachet, locate the pre-cut notch (indicated by an arrow on the patch label) along the edge of the seal. Fold the sachet at the notch, then carefully tear the sachet material. Further open the sachet along both sides, folding the sachet open like a book. The release liner for the patch is slit. Fold the patch in the middle and remove each half of the liner separately. Avoid touching the adhesive side of the patch. Apply the patch to the skin by applying light pressure with the palm of the hand for about 30 seconds. Make certain that the edges of the patch are adhering properly. Then wash hands with clean water.

DUROGESIC may be worn continuously for 72 hours. A new patch should be applied to a different skin site after removal of the previous transdermal patch. Several days should elapse before a new patch is applied to the same area of the skin.

### **4.3 Contraindications**

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

Acute or postoperative pain because there is no opportunity for dose titration during short-term use and because serious or life-threatening hypoventilation could result.

Severe respiratory depression.

### **4.4 Special warnings and precautions for use**

Patients who have experienced serious adverse events should be monitored for at least 24 hours after removal of DUROGESIC, or more, as clinical symptoms dictate, because serum fentanyl concentrations decline gradually and are reduced by about 50% 20 to 27 hours later.

Patients and their carers must be instructed that DUROGESIC contains an active substance in an amount that can be fatal, especially to a child. Therefore, they must keep all patches out of the sight and reach of children, both before and after use.

Because of the risks, including fatal outcome, associated with accidental ingestion, misuse, and abuse, patients and their carers must be advised to keep DUROGESIC in a safe and secure place, not accessible by others.

### *Opioid-naïve and not opioid-tolerant states*

Use of DUROGESIC in the opioid-naïve patient has been associated with very rare cases of significant respiratory depression and/or fatality when used as initial opioid therapy, especially in patients with non-cancer pain. The potential for serious or life-threatening hypoventilation exists even if the lowest dose of DUROGESIC is used in initiating therapy in opioid-naïve patients, especially in

elderly or patients with hepatic or renal impairment. The tendency of tolerance development varies widely among individuals. It is recommended that DUROGESIC is used in patients who have demonstrated opioid tolerance (see section 4.2).

#### Respiratory depression

Some patients may experience significant respiratory depression with DUROGESIC; patients must be observed for these effects. Respiratory depression may persist beyond the removal of the DUROGESIC patch. The incidence of respiratory depression increases as the DUROGESIC dose is increased (see section 4.9).

Opioids can cause sleep-related breathing disorders including central sleep apnoea (CSA) and sleep-related hypoxia. Opioid use increases the risk of CSA in a dose-dependent fashion. In patients who present with CSA consider decreasing the total opioid dosage.

#### Risk from concomitant use of central nervous system (CNS) depressants, including sedative medicines such as benzodiazepines or related drugs, alcohol and CNS depressant narcotic drugs

Concomitant use of DUROGESIC and sedative medicines such as benzodiazepines or related drugs, alcohol, or CNS depressant narcotic drugs, may result in sedation, respiratory depression, coma and death. Because of these risks, concomitant prescribing with sedative medicines should be reserved for patients for whom alternative treatment options are not possible. If a decision is made to prescribe DUROGESIC concomitantly with sedative medicines, the lowest effective dose should be used, and the duration of treatment should be as short as possible.

The patients should be followed closely for signs and symptoms of respiratory depression and sedation. In this respect, it is strongly recommended to inform patients and their caregivers to be aware of these symptoms (see section 4.5).

#### Chronic pulmonary disease

DUROGESIC may have more severe adverse effects in patients with chronic obstructive or other pulmonary disease. In such patients, opioids may decrease respiratory drive and increase airway resistance.

#### Long-term treatment effects and tolerance

In all patients, tolerance to the analgesic effects, hyperalgesia, physical dependence, and psychological dependence may develop upon repeated administration of opioids, whereas incomplete tolerance is developed for some side effects like opioid-induced constipation. Particularly in patients with chronic non-cancer pain, it has been reported that they may not experience a meaningful amelioration in pain intensity from continuous opioid treatment in the long-term. During treatment, there should be frequent contact between the physician and the patient to evaluate the need for continued treatment (see section 4.2). When it is decided that there is no benefit for continuation, gradual down-titration should be applied to address withdrawal symptoms.

Do not abruptly discontinue DUROGESIC in a patient physically dependent on opioids. Drug withdrawal syndrome may occur upon abrupt cessation of therapy or dose reduction.

There have been reports that rapid tapering of DUROGESIC in a patient physically dependent on opioids may lead to serious withdrawal symptoms and uncontrolled pain (see section 4.2 and section 4.8). When a patient no longer requires therapy, it is advisable to taper the dose gradually to minimise symptoms of withdrawal. Tapering from a high dose may take weeks to months.

The opioid drug withdrawal syndrome is characterised by some or all of the following: restlessness, lacrimation, rhinorrhoea, yawning, perspiration, chills, myalgia, mydriasis and palpitations. Other symptoms may also develop including irritability, agitation, anxiety, hyperkinesia, tremor, weakness, insomnia, anorexia, abdominal cramps, nausea, vomiting, diarrhoea, increased blood pressure, increased respiratory rate or heart rate.

#### Opioid use disorder (abuse and dependence)



Repeated use of DUROGESIC may lead to Opioid use disorder (OUD). A higher dose and longer duration of opioid treatment can increase the risk of developing OUD. Abuse or intentional misuse of DUROGESIC may result in overdose and/or death. The risk of developing OUD is increased in patients with a personal or a family history (parents or siblings) of substance use disorders (including alcohol use disorder), in current tobacco users or in patients with a personal history of other mental health disorders (e.g. major depression, anxiety and personality disorders).

Before initiating treatment with DUROGESIC and during the treatment, treatment goals and a discontinuation plan should be agreed with the patient (see section 4.2). Before and during treatment the patient should also be informed about the risks and signs of OUD. If these signs occur, patients should be advised to contact their physician.

Patients treated with opioid medications should be monitored for signs of OUD, such as drug-seeking behaviour (e.g. too early requests for refills), particularly with patients at increased risk. This includes the review of concomitant opioids and psycho-active drugs (like benzodiazepines). For patients with signs and symptoms of OUD, consultation with an addiction specialist should be considered. If opioid discontinuation is to occur see section 4.4.

#### Central nervous system conditions including increased intracranial pressure

DUROGESIC should be used with caution in patients who may be particularly susceptible to the intracranial effects of CO<sub>2</sub> retention such as those with evidence of increased intracranial pressure, impaired consciousness, or coma. DUROGESIC should be used with caution in patients with brain tumours.

#### Cardiac disease

Fentanyl may produce bradycardia and should therefore be administered with caution to patients with bradyarrhythmias.

#### Hypotension

Opioids may cause hypotension, especially in patients with acute hypovolaemia. Underlying, symptomatic hypotension and/or hypovolaemia should be corrected before treatment with fentanyl transdermal patches is initiated.

#### Hepatic impairment

Because fentanyl is metabolised to inactive metabolites in the liver, hepatic impairment might delay its elimination. If patients with hepatic impairment receive DUROGESIC, they should be observed carefully for signs of fentanyl toxicity and the dose of DUROGESIC reduced if necessary (see section 5.2).

#### Renal impairment

Even though impairment of renal function is not expected to affect fentanyl elimination to a clinically relevant extent, caution is advised because fentanyl pharmacokinetics has not been evaluated in this patient population (see section 5.2). Treatment should only be considered if the benefits outweigh the risks. If patients with renal impairment receive DUROGESIC, they should be observed carefully for signs of fentanyl toxicity and the dose reduced if necessary. Additional restrictions apply to opioid-naïve patients with renal impairment (see section 4.2).

#### Fever/external heat application

Fentanyl concentrations may increase if the skin temperature increases (see section 5.2). Therefore, patients with fever should be monitored for opioid undesirable effects and the DUROGESIC dose should be adjusted if necessary. There is a potential for temperature-dependent increases in fentanyl released from the system resulting in possible overdose and death.

All patients should be advised to avoid exposing the DUROGESIC application site to direct external heat sources such as heating pads, electric blankets, heated water beds, heat or tanning lamps, sunbathing, hot-water bottles, prolonged hot baths, saunas and hot whirlpool spa baths.

### Serotonin syndrome

Caution is advised when DUROGESIC is co-administered with medicinal products that affect the serotonergic neurotransmitter systems.

The development of a potentially life-threatening serotonin syndrome may occur with the concomitant use of serotonergic active substances such as Selective Serotonin Re-uptake Inhibitors (SSRIs) and Serotonin Norepinephrine Re-uptake Inhibitors (SNRIs), and with active substances that impair metabolism of serotonin (including Monoamine Oxidase Inhibitors [MAOIs]). This may occur within the recommended dose (see section 4.5).

Serotonin syndrome may include mental-status changes (e.g. agitation, hallucinations, coma), autonomic instability (e.g. tachycardia, labile blood pressure, hyperthermia), neuromuscular abnormalities (e.g. hyperreflexia, incoordination, rigidity), and/or gastrointestinal symptoms (e.g. nausea, vomiting, diarrhoea).

If serotonin syndrome is suspected, treatment with DUROGESIC should be discontinued.

### Interactions with other medicinal products

#### CYP3A4 inhibitors

The concomitant use of DUROGESIC with cytochrome P450 3A4 (CYP3A4) inhibitors may result in an increase in fentanyl plasma concentrations, which could increase or prolong both the therapeutic and adverse effects, and may cause serious respiratory depression. Therefore, the concomitant use of DUROGESIC and CYP3A4 inhibitors is not recommended unless the benefits outweigh the increased risk of adverse effects. Generally, a patient should wait for 2 days after stopping treatment with a CYP3A4 inhibitor before applying the first DUROGESIC patch. However, the duration of inhibition varies and for some CYP3A4 inhibitors with a long elimination half-life, such as amiodarone, or for time-dependent inhibitors such as erythromycin, idelalisib, nicardipine and ritonavir, this period may need to be longer. Therefore, the product information of the CYP3A4 inhibitor must be consulted for the active substance's half-life and duration of the inhibitory effect before applying the first DUROGESIC patch. A patient who is treated with DUROGESIC should wait at least 1 week after removal of the last patch before initiating treatment with a CYP3A4 inhibitor. If concomitant use of DUROGESIC with a CYP3A4 inhibitor cannot be avoided, close monitoring for signs or symptoms of increased or prolonged therapeutic effects and adverse effects of fentanyl (in particular respiratory depression) is warranted, and the DUROGESIC dosage must be reduced or interrupted as deemed necessary (see section 4.5).

### Accidental exposure by patch transfer

Accidental transfer of a fentanyl patch to the skin of a non-patch wearer (particularly a child), while sharing a bed or being in close physical contact with a patch wearer, may result in an opioid overdose for the non-patch wearer. Patients should be advised that if accidental patch transfer occurs, the transferred patch must be removed immediately from the skin of the non-patch wearer (see section 4.9).

### Use in elderly patients

Data from intravenous studies with fentanyl suggest that elderly patients may have reduced clearance, a prolonged half-life, and they may be more sensitive to the active substance than younger patients. If elderly patients receive DUROGESIC, they should be observed carefully for signs of fentanyl toxicity and the dose reduced if necessary (see section 5.2).

### Gastrointestinal tract

Opioids increase the tone and decrease the propulsive contractions of the smooth muscle of the gastrointestinal tract. The resultant prolongation in gastrointestinal transit time may be responsible for the constipating effect of fentanyl. Patients should be advised on measures to prevent constipation and prophylactic laxative use should be considered. Extra caution should be used in patients with chronic constipation. If paralytic ileus is present or suspected, treatment with DUROGESIC should be stopped.

#### Patients with myasthenia gravis

Non-epileptic (myo)clonic reactions can occur. Caution should be exercised when treating patients with myasthenia gravis.

#### Concomitant use of mixed opioid agonists/antagonists

The concomitant use of buprenorphine, nalbuphine or pentazocine is not recommended (see section 4.5).

#### Paediatric population

DUROGESIC should not be administered to opioid-naïve paediatric patients (see section 4.2). The potential for serious or life-threatening hypoventilation exists regardless of the dose of DUROGESIC transdermal system administered.

DUROGESIC has not been studied in children under 2 years of age. DUROGESIC should be administered only to opioid-tolerant children age 2 years or older (see section 4.2).

To guard against accidental ingestion by children, use caution when choosing the application site for DUROGESIC (see sections 4.2 and 6.6) and monitor adhesion of the patch closely.

#### Opioid induced hyperalgesia

Opioid induced hyperalgesia (OIH) is a paradoxical response to an opioid in which there is an increase in pain perception despite stable or increased opioid exposure. It differs from tolerance, in which higher opioid doses are required to achieve the same analgesic effect or treat recurring pain. OIH may manifest as increased levels of pain, more generalised pain (i.e., less focal), or pain from ordinary (i.e. non-painful) stimuli (allodynia) with no evidence of disease progression. When OIH is suspected, the dose of opioid should be reduced or tapered off, if possible.

#### Endocrine effects

Opioids such as fentanyl may influence the hypothalamic-pituitary-adrenal or –gonadal axes, especially after long-term use. Some changes that can be seen include an increase in serum prolactin, and decreases in plasma cortisol and testosterone. Clinical signs and symptoms may manifest from these hormonal changes. If an endocrine effect such as hyperprolactinaemia or adrenal insufficiency is suspected, appropriate laboratory testing is recommended and discontinuation of treatment with DUROGESIC should be considered.

### **4.5 Interaction with other medicinal products and other forms of interaction**

#### Pharmacodynamic-related interactions

##### Centrally-acting medicinal products/central nervous system (CNS) depressants, including alcohol and CNS depressant narcotic drugs

The concomitant use of DUROGESIC with other central nervous system depressants (including benzodiazepines and other sedatives/ hypnotics, opioids, general anaesthetics, phenothiazines, tranquilisers, sedating antihistamines, alcohol and CNS depressant narcotic drugs), skeletal muscle relaxants and gabapentinoids (gabapentin and pregabalin) may result in respiratory depression, hypotension, profound sedation, coma or death. Concomitant prescribing of CNS depressants and DUROGESIC should be reserved for patients for whom alternative treatment options are not possible. The use of any of these medicinal products concomitantly with DUROGESIC requires close monitoring and observation. The dose and duration of concomitant use should be limited (see section 4.4).

##### Monoamine Oxidase Inhibitors (MAOI)

DUROGESIC is not recommended for use in patients who require the concomitant administration of an MAOI. Severe and unpredictable interactions with MAOIs, involving the potentiation of opiate

effects or the potentiation of serotonergic effects, have been reported. DUROGESIC should not be used within 14 days after discontinuation of treatment with MAOIs.

#### Serotonergic medicinal products

Co-administration of fentanyl with a serotonergic medicinal product, such as a Selective Serotonin Re-uptake Inhibitor (SSRI) or a Serotonin Norepinephrine Re-uptake Inhibitor (SNRI) or a Monoamine Oxidase Inhibitor (MAOI), may increase the risk of serotonin syndrome, a potentially life-threatening condition. Use concomitantly with caution. Carefully observe the patient, particularly during treatment initiation and dose adjustment (see section 4.4).

#### Concomitant use of mixed opioid agonists/antagonists

The concomitant use of buprenorphine, nalbuphine or pentazocine is not recommended. They have high affinity to opioid receptors with relatively low intrinsic activity and therefore partially antagonise the analgesic effect of fentanyl and may induce withdrawal symptoms in opioid dependent patients (see section 4.4).

#### Pharmacokinetic-related interactions

##### Cytochrome P450 3A4 (CYP3A4) Inhibitors

Fentanyl, a high clearance active substance, is rapidly and extensively metabolised mainly by CYP3A4.

The concomitant use of DUROGESIC with cytochrome P450 3A4 (CYP3A4) inhibitors may result in an increase in fentanyl plasma concentrations, which could increase or prolong both the therapeutic and adverse effects, and may cause serious respiratory depression. The extent of interaction with strong CYP3A4 inhibitors is expected to be greater than with weak or moderate CYP3A4 inhibitors. Cases of serious respiratory depression after coadministration of CYP3A4 inhibitors with transdermal fentanyl have been reported, including a fatal case after coadministration with a moderate CYP3A4 inhibitor. The concomitant use of CYP3A4 inhibitors and DUROGESIC is not recommended, unless the patient is closely monitored (see section 4.4). Examples of active substances that may increase fentanyl concentrations include amiodarone, cimetidine, clarithromycin, diltiazem, erythromycin, fluconazole, itraconazole, ketoconazole, nefazodone, ritonavir, verapamil and voriconazole (this list is not exhaustive). After coadministration of weak, moderate or strong CYP3A4 inhibitors with short-term intravenous fentanyl administration, decreases in fentanyl clearance were generally  $\leq 25\%$ , however with ritonavir (a strong CYP3A4 inhibitor), fentanyl clearance decreased on average 67%. The extent of the interactions of CYP3A4 inhibitors with long-term transdermal fentanyl administration is not known, but may be greater than with short-term intravenous administration.

##### Cytochrome P450 3A4 (CYP3A4) Inducers

The concomitant use of transdermal fentanyl with CYP3A4 inducers may result in a decrease in fentanyl plasma concentrations and a decreased therapeutic effect. Caution is advised upon concomitant use of CYP3A4 inducers and DUROGESIC. The dose of DUROGESIC may need to be increased or a switch to another analgesic active substance may be needed. A fentanyl dose decrease and careful monitoring is warranted in anticipation of stopping concomitant treatment with a CYP3A4 inducer. The effects of the inducer decline gradually and may result in increased fentanyl plasma concentrations, which could increase or prolong both the therapeutic and adverse effects, and may cause serious respiratory depression. Careful monitoring should be continued until stable drug effects are achieved. Examples of active substance that may decrease fentanyl plasma concentrations include carbamazepine, phenobarbital, phenytoin and rifampicin (this list is not exhaustive).

#### Paediatric population

Interaction studies have only been performed in adults.

## 4.6 Fertility, pregnancy and lactation

### Pregnancy

There are no adequate data from the use of DUROGESIC in pregnant women. Studies in animals have shown some reproductive toxicity (see section 5.3). The potential risk for humans is unknown, although fentanyl as an IV anaesthetic has been found to cross the placenta in human pregnancies. Neonatal withdrawal syndrome has been reported in newborn infants with chronic maternal use of DUROGESIC during pregnancy. DUROGESIC should not be used during pregnancy unless clearly necessary.

Use of DUROGESIC during childbirth is not recommended because it should not be used in the management of acute or postoperative pain (see section 4.3). Moreover, because fentanyl passes through the placenta, the use of DUROGESIC during childbirth might result in respiratory depression in the newborn infant.

### Breastfeeding

Fentanyl is excreted into human milk and may cause sedation/respiratory depression in a breastfed infant. Breastfeeding should therefore be discontinued during treatment with DUROGESIC and for at least 72 hours after removal of the patch.

### Fertility

There are no clinical data on the effects of fentanyl on fertility. Some studies in rats have revealed reduced fertility and enhanced embryo mortality at maternally toxic doses (see section 5.3).

## 4.7 Effects on ability to drive and use machines

DUROGESIC may impair mental and/or physical ability required for the performance of potentially hazardous tasks such as driving or operating machinery.

## 4.8 Undesirable effects

The safety of DUROGESIC was evaluated in 1 565 adult and 289 paediatric subjects who participated in 11 clinical studies (1 double-blind, placebo-controlled; 7 open-label, active-controlled; 3 open-label, uncontrolled) used for the management of chronic malignant or non-malignant pain. These subjects received at least one dose of DUROGESIC and provided safety data. Based on pooled safety data from these clinical studies, the most commonly reported (i.e.  $\geq 10\%$  incidence) adverse reactions were: nausea (35.7%), vomiting (23.2%), constipation (23.1%), somnolence (15.0%), dizziness (13.1%), and headache (11.8%).

The adverse reactions reported with the use of DUROGESIC from these clinical studies, including the above-mentioned adverse reactions, and from post-marketing experiences are listed below in Table 5.

The displayed frequency categories use the following convention: 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  $< 1/1\ 000$ ); very rare ( $< 1/10\ 000$ ); not known (cannot be estimated from the available clinical data). The adverse reactions are presented by System Organ Class and in order of decreasing seriousness within each frequency category.

**Table 5: Adverse reactions in adult and paediatric patients**

System/Organ Class	Frequency category				
	Very common	Common	Uncommon	Rare	Not known

<b>Immune system disorders</b>		Hypersensitivity			Anaphylactic shock, Anaphylactic reaction, Anaphylactoid reaction
<b>Endocrine disorders</b>					Androgen deficiency
<b>Metabolism and nutrition disorders</b>		Anorexia			
<b>Psychiatric disorders</b>		Insomnia, Depression, Anxiety, Confusional state, Hallucination	Agitation, Disorientation, Euphoric mood		Delirium, Dependence
<b>Nervous system disorders</b>	Somnolence, Dizziness, Headache	Tremor, Paraesthesia	Hypoaesthesia, Convulsion (including clonic convulsions and grand mal convulsion), Amnesia, Depressed level of consciousness, Loss of consciousness		
<b>Eye disorders</b>			Vision blurred	Miosis	
<b>Ear and labyrinth disorders</b>		Vertigo			
<b>Cardiac disorders</b>		Palpitations, Tachycardia	Bradycardia, Cyanosis		
<b>Vascular disorders</b>		Hypertension	Hypotension		
<b>Respiratory, thoracic and mediastinal disorders</b>		Dyspnoea	Respiratory depression, Respiratory distress	Apnoea, Hypoventilation	Bradypnoea
<b>Gastrointestinal disorders</b>	Nausea, Vomiting, Constipation	Diarrhoea, Dry mouth, Abdominal pain, Abdominal pain upper, Dyspepsia	Ileus, Dysphagia	Subileus	
<b>Skin and subcutaneous tissue disorders</b>		Hyperhidrosis, Pruritus, Rash, Erythema	Eczema, Dermatitis allergic, Skin disorder, Dermatitis, Dermatitis contact		
<b>Musculoskeletal and connective tissue disorders</b>		Muscle spasms	Muscle twitching		
<b>Renal and urinary disorders</b>		Urinary retention			
<b>Reproductive system and breast disorders</b>			Erectile dysfunction, Sexual dysfunction		

<b>General disorders and administration site conditions</b>	Fatigue, Oedema peripheral, Asthenia, Malaise, Feeling cold	Application site reaction, Influenza-like illness, Feeling of body temperature change, Application site hypersensitivity, Drug withdrawal syndrome, Pyrexia*	Application site dermatitis, Application site eczema	Drug tolerance
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\* The assigned frequency (uncommon) is based on analyses of incidence including only adult and paediatric clinical study subjects with non-cancer pain.

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### Paediatric population

The safety of DUROGESIC was evaluated in 289 paediatric subjects (< 18 years) who participated in 3 clinical studies for the management of chronic or continuous pain of malignant or non-malignant origin. These subjects received at least one dose of DUROGESIC and provided safety data (see section 5.1).

The safety profile in children and adolescents treated with DUROGESIC was similar to that observed in adults. No risk was identified in the paediatric population beyond that expected with the use of opioids for the relief of pain associated with serious illness and there does not appear to be any paediatric-specific risk associated with DUROGESIC use in children as young as 2 years old when used as directed.

Based on pooled safety data from these 3 clinical studies in paediatric subjects, the most commonly reported (i.e.  $\geq 10\%$  incidence) adverse reactions were vomiting (33.9%), nausea (23.5%), headache (16.3%), constipation (13.5%), diarrhoea (12.8%), and pruritus (12.8%).

### Tolerance

Tolerance can develop on repeated use.

### Drug dependence

Repeated use of DUROGESIC can lead to drug dependence, even at therapeutic doses. The risk of drug dependence may vary depending on a patient's individual risk factors, dosage, and duration of opioid treatment (see section 4.4).

### Opioid withdrawal symptoms

Opioid withdrawal symptoms (such as nausea, vomiting, diarrhoea, anxiety, and shivering) are possible in some patients after conversion from their previous opioid analgesic to DUROGESIC or if therapy is stopped suddenly (see sections 4.2 and 4.4).

### Neonatal withdrawal syndrome

There have been very rare reports of newborn infants experiencing neonatal withdrawal syndrome when mothers chronically used DUROGESIC during pregnancy (see section 4.6).

### Serotonin syndrome

Cases of serotonin syndrome have been reported when fentanyl was administered concomitantly with highly serotonergic drugs (see sections 4.4 and 4.5).

### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Nederlands Bijwerkingen Centrum Lareb, website [www.lareb.nl](http://www.lareb.nl).

## 4.9 Overdose

### Symptoms and signs

The manifestations of fentanyl overdose are an extension of its pharmacologic actions, the most serious effect being respiratory depression. Toxic leukoencephalopathy has also been observed with fentanyl overdose.

### Treatment

For management of respiratory depression, immediate countermeasures include removing the DUROGESIC patch and physically or verbally stimulating the patient. These actions can be followed by administration of a specific opioid antagonist such as naloxone. Respiratory depression following an overdose may outlast the duration of action of the opioid antagonist. The interval between IV antagonist doses should be carefully chosen because of the possibility of re-narcotisation after the patch is removed; repeated administration or a continuous infusion of naloxone may be necessary. Reversal of the narcotic effect may result in acute onset of pain and release of catecholamines.

If the clinical situation warrants, a patent airway should be established and maintained, possibly with an oropharyngeal airway or endotracheal tube, and oxygen should be administered and respiration assisted or controlled, as appropriate. Adequate body temperature and fluid intake should be maintained.

If severe or persistent hypotension occurs, hypovolaemia should be considered, and the condition should be managed with appropriate parenteral fluid therapy.

## 5. PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Analgesics, Opioids, phenylpiperidine derivatives, ATC code: N02AB03

#### Mechanism of action

Fentanyl is an opioid analgesic, interacting predominantly with the  $\mu$  opioid receptor. Its primary therapeutic actions are analgesia and sedation.

#### Paediatric population

The safety of DUROGESIC was evaluated in 3 open-label studies in 289 paediatric subjects with chronic pain, aged 2 to 17 years, inclusive. Eighty of the children were aged 2 to 6 years, inclusive. Of the 289 subjects enrolled in these 3 studies, 110 initiated DUROGESIC treatment with a dosage of 12 mcg/h. Of these 110 subjects, 23 (20.9%) had previously been receiving < 30 mg of oral morphine equivalents per day, 66 (60.0%) had been receiving 30 to 44 mg of oral morphine equivalents per day, and 12 (10.9%) had been receiving at least 45 mg of oral morphine equivalents per day (data not available for 9 [8.2%] subjects). Starting dosages of 25 mcg/h and higher were used by the remaining 179 subjects, 174 (97.2%) of whom had been on opioid doses of at least 45 mg of oral morphine equivalents per day. Among the remaining 5 subjects with a starting dosage of at least 25 mcg/h whose prior opioid doses were < 45 mg of oral morphine equivalents per day, 1 (0.6%) had previously been receiving < 30 mg of oral morphine equivalents per day and 4 (2.2%) had been receiving 30 to 44 mg of oral morphine equivalents per day (see section 4.8).

### 5.2 Pharmacokinetic properties

#### Absorption

DUROGESIC provides continuous systemic delivery of fentanyl during the 72-hour application period. Following DUROGESIC application, the skin under the system absorbs fentanyl, and a depot of fentanyl concentrates in the upper skin layers. Fentanyl then becomes available to the systemic circulation. The polymer matrix and the diffusion of fentanyl through the layers of the skin ensure that



the release rate is relatively constant. The concentration gradient existing between the system and the lower concentration in the skin drives drug release. The average bioavailability of fentanyl after application of the transdermal patch is 92%.

After the first DUROGESIC application, serum fentanyl concentrations increase gradually, generally leveling off between 12 and 24 hours and remaining relatively constant for the remainder of the 72-hour application period. By the end of the second 72-hour application, a steady-state serum concentration is reached and is maintained during subsequent applications of a patch of the same size. Due to accumulation, the AUC and  $C_{\max}$  values over a dosing interval at steady state are approximately 40% higher than after a single application. Patients reach and maintain a steady-state serum concentration that is determined by individual variation in skin permeability and body clearance of fentanyl. High inter-subject variability in plasma concentrations has been observed.

A pharmacokinetic model has suggested that serum fentanyl concentrations may increase by 14% (range 0-26%) if a new patch is applied after 24 hours rather than the recommended 72-hour application.

Skin temperature elevation may enhance the absorption of transdermally-applied fentanyl (see section 4.4). An increase in skin temperature through the application of a heating pad on low setting over the DUROGESIC system during the first 10 hours of a single application increased the mean fentanyl AUC value by 2.2-fold and the mean concentration at the end of heat application by 61%.

#### Distribution

Fentanyl is rapidly distributed to various tissues and organs, as indicated by the large volume of distribution (3 to 10 L/kg after intravenous dosing in patients). Fentanyl accumulates in skeletal muscle and fat and is released slowly into blood.

In a study in cancer patients treated with transdermal fentanyl, plasma protein binding was on average 95% (range 77-100%). Fentanyl crosses the blood-brain barrier easily. It also crosses the placenta and is excreted in breast milk.

#### Biotransformation

Fentanyl is a high clearance active substance and is rapidly and extensively metabolised primarily by CYP3A4 in the liver. The major metabolite, norfentanyl, and other metabolites are inactive. Skin does not appear to metabolise fentanyl delivered transdermally. This was determined in a human keratinocyte cell assay and in clinical studies in which 92% of the dose delivered from the system was accounted for as unchanged fentanyl that appeared in the systemic circulation.

#### Elimination

Following a 72-hour patch application, the mean fentanyl half-life ranges from 20 to 27 hours. As a result of continued absorption of fentanyl from the skin depot after removal of the patch, the half-life of fentanyl after transdermal administration is about 2- to 3-fold longer than intravenous administration.

After intravenous administration, fentanyl mean total clearance values across studies range in general between 34 and 66 L/h.

Within 72 hours of IV fentanyl administration, approximately 75% of the dose is excreted into the urine and approximately 9% of the dose into the faeces. Excretion occurs primarily, as metabolites, with less than 10% of the dose excreted as unchanged active substance.

#### Linearity/non-linearity

The serum fentanyl concentrations attained are proportional to the DUROGESIC patch size. The pharmacokinetics of transdermal fentanyl do not change with repeated application.

### Pharmacokinetic/pharmacodynamic relationships

There is a high inter-subject variability in fentanyl pharmacokinetics, in the relationships between fentanyl concentrations, therapeutic and adverse effects, and in opioid tolerance. The minimum effective fentanyl concentration depends on the pain intensity and the previous use of opioid therapy. Both the minimum effective concentration and the toxic concentration increase with tolerance. An optimal therapeutic concentration range of fentanyl can therefore not be established. Adjustment of the individual fentanyl dose must be based on the patient's response and level of tolerance. A lag time of 12 to 24 hours after application of the first patch and after a dose increase must be taken into account.

### Special populations

#### *Elderly*

Data from intravenous studies with fentanyl suggest that elderly patients may have reduced clearance, a prolonged half-life, and they may be more sensitive to the drug than younger patients. In a study conducted with DUROGESIC, healthy elderly subjects had fentanyl pharmacokinetics which did not differ significantly from healthy young subjects although peak serum concentrations tended to be lower and mean half-life values were prolonged to approximately 34 hours. Elderly patients should be observed carefully for signs of fentanyl toxicity and the dose reduced if necessary (see section 4.4).

#### *Renal impairment*

The influence of renal impairment on the pharmacokinetics of fentanyl is expected to be limited because urinary excretion of unchanged fentanyl is less than 10% and there are no known active metabolites eliminated by the kidney. However, as the influence of renal impairment on the pharmacokinetics of fentanyl has not been evaluated, caution is advised (see sections 4.2 and 4.4).

#### *Hepatic impairment*

Patients with hepatic impairment should be observed carefully for signs of fentanyl toxicity and the dose of DUROGESIC should be reduced if necessary (see section 4.4). Data in subjects with cirrhosis and simulated data in subjects with different grades of impaired liver function treated with transdermal fentanyl suggest that fentanyl concentrations may be increased, and fentanyl clearance may be decreased compared to subjects with normal liver function. The simulations suggest that the steady-state AUC of patients with Child-Pugh Grade B liver disease (Child-Pugh Score = 8) would be approximately 1.36 times larger compared with that of patients with normal liver function (Grade A; Child-Pugh Score = 5.5). As for patients with Grade C liver disease (Child-Pugh Score = 12.5), the results indicate that fentanyl concentration accumulates with each administration, leading these patients to have an approximately 3.72 times larger AUC at steady state.

#### *Paediatric population*

Fentanyl concentrations were measured in more than 250 children aged 2 to 17 years who were applied fentanyl patches in the dose range of 12.5 to 300 mcg/h. Adjusting for body weight, clearance (L/h/kg) appears to be approximately 80% higher in children 2 to 5 years old and 25% higher in children 6 to 10 years old when compared to children 11 to 16 years old, who are expected to have a similar clearance as adults. These findings have been taken into consideration in determining the dosing recommendations for paediatric patients (see sections 4.2 and 4.4).

## **5.3 Preclinical safety data**

Non-clinical data reveal no special hazard for humans based on conventional studies of repeated dose toxicity.

Standard reproductive and developmental toxicity studies have been carried out using parenteral administration of fentanyl. In a rat study fentanyl did not influence male fertility. Some studies with female rats revealed reduced fertility and enhanced embryo mortality.

Effects on the embryo were due to maternal toxicity and not to direct effects of the substance on the developing embryo. There was no indication of teratogenic effects in studies in two species (rats and

rabbits). In a study on pre- and postnatal development the survival rate of offspring was significantly reduced at doses that slightly reduced maternal weight. This effect could either be due to altered maternal care or a direct effect of fentanyl on the pups. Effects on somatic development and behaviour of the offspring were not observed.

Mutagenicity testing in bacteria and in rodents yielded negative results. Fentanyl induced mutagenic effects in mammalian cells *in vitro*, comparable to other opioid analgesics. A mutagenic risk for the use of therapeutic doses seems unlikely since effects appeared only at high concentrations.

A carcinogenicity study (daily subcutaneous injections of fentanyl hydrochloride for two years in Sprague Dawley rats) did not induce any findings indicative of oncogenic potential.

## **6. PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Backing Layer: Film, Polyester/Ethylene Vinyl Acetate Copolymer,  
Protective Liner: Film, Siliconized Polyester,  
Drug Layer: Polyacrylate Adhesive.

Inks (on backing):

DUROGESIC 12 µg/hour  
Printing Ink, Orange.

DUROGESIC 25 µg/hour  
Printing Ink, Red.

DUROGESIC 50 µg/hour  
Printing Ink, Green.

DUROGESIC 75 µg/hour  
Printing Ink, Blue.

DUROGESIC 100 µg/hour  
Printing Ink, Grey.

### **6.2 Incompatibilities**

To prevent interference with the adhesive properties of DUROGESIC, no creams, oils, lotions or powder should be applied to the skin area when the DUROGESIC transdermal patch is applied.

### **6.3 Shelf life**

1 year.

### **6.4 Special precautions for storage**

Store in the original pouch, in order to protect from light.  
This medicinal product does not require any special temperature storage conditions.

## **6.5 Nature and contents of container**

Each patch is packed in a heat-sealed pouch. The pouch material is a lamination of polyethylene terephthalate (PET), low density polyethylene (LDPE), aluminium foil, adhesive and acrylonitrile film or paper, PET, adhesive, aluminium foil and cyclic olefin copolymer.

DUROGESIC is supplied in cartons containing 3, 4, 5, 8, 10, 16, 20 or 30 individually packed patches. Not all pack sizes may be marketed.

## **6.6 Special precautions for disposal and other handling**

Instructions for disposal:

Used patches should be folded so that the adhesive side of the patch adheres to itself and then they should be safely discarded. Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

## **7. MARKETING AUTHORISATION HOLDER**

Janssen-Cilag B.V.  
Graaf Engelbertlaan 75  
4837 DS Breda

## **8. MARKETING AUTHORISATION NUMBER(S)**

DUROGESIC 12 µg/hour: RVG 31418  
DUROGESIC 25 µg/ hour: RVG 16845  
DUROGESIC 50 µg/ hour: RVG 16846  
DUROGESIC 75 µg/ hour: RVG 16847  
DUROGESIC 100 µg/ hour: RVG 16848

## **9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorization:

RVG 16845, 16846, 16847 and 16848	17 July 1995
RVG 31418	27 October 2004

Date of renewal of the authorization:

RVG 16845, 16846, 16847 and 16848	17 July 2015
RVG 31418	27 October 2014

## **10. DATE OF REVISION OF THE TEXT**

Latest complete revision: 22 September 2016

Latest partial revision concern section 6.3: 13 June 2025

## **Package leaflet: Information for the user**

DUROGESIC 12 micrograms/hour transdermal patch  
DUROGESIC 25 micrograms/hour transdermal patch  
DUROGESIC 50 micrograms/hour transdermal patch  
DUROGESIC 75 micrograms/hour transdermal patch  
DUROGESIC 100 micrograms/hour transdermal patch

fentanyl

**Read all of this leaflet carefully before you start using this medicine because it contains important information for you.**

- Keep this leaflet. You may need to read it again
- If you have any further questions, ask your doctor, pharmacist or nurse
- This medicine has been prescribed for you (or your child) only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours
- If you get side effects talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. See section 4.

### **What is in this leaflet**

1. What DUROGESIC is and what it is used for
2. What you need to know before you use DUROGESIC
3. How to use DUROGESIC
4. Possible side effects
5. How to store DUROGESIC
6. Contents of the pack and other information

### **1. What DUROGESIC is and what it is used for**

The name of your medicine is DUROGESIC

The patches help relieve pain that is very bad and long-lasting:

- in adults who need continuous pain treatment
- in children above 2 years of age who are already using opioid medication and who need continuous pain treatment.

DUROGESIC contains a medicine called fentanyl. It belongs to a group of strong painkillers called opioids.

### **2. What you need to know before you use DUROGESIC**

#### **Do not use DUROGESIC if**

- You are allergic to fentanyl or any of the other ingredients of this medicine (listed in section 6 of this leaflet)
- You have pain which lasts only for a short period, such as sudden pain or pain after having an operation
- You have breathing difficulties, with slow or shallow breathing

Do not use this medicine if any of the above apply to you or your child. If you are not sure, talk to your doctor or pharmacist before using DUROGESIC.

## Warnings and precautions

- DUROGESIC can have life-threatening side effects in people who are not already regularly using prescribed opioid medicines.
- DUROGESIC is a medicine that could be life-threatening to children, even if the patches have been used. Bear in mind that a sticky patch (unused or used) could be tempting to a child and if it sticks to a child's skin or they put it in their mouth, the result may be fatal.
- Store this medicine in a safe and secure place, where other people cannot access it - see section 5 for more information.

### Patch sticking to another person

The patch should be used only on the skin of the person for whom it has been prescribed. There have been reports of patches accidentally sticking to a family member while in close physical contact or sharing the same bed as the person wearing the patch. A patch accidentally sticking to another person (particularly a child) can cause the medicine in the patch to go through the skin of the other person and cause serious side effects such as breathing difficulties, with slow or shallow breathing which may be fatal. In case the patch sticks to the skin of another person, take the patch off right away and get medical attention.

### Take special care with DUROGESIC

**Talk to your doctor or pharmacist before** using this medicine if any of the following apply to you - your doctor may need to check you more closely if:

- You have ever had problems with your lungs or breathing.
- You have ever had problems with your heart, liver, kidneys, or low blood pressure.
- You have ever had a brain tumour.
- You have ever had persistent headaches or a head injury.
- You are elderly - you may be more sensitive to the effects of this medicine.
- You have a condition called 'myasthenia gravis' in which muscles become weak and tire easily.

If any of the above apply to you (or you are not sure), talk to your doctor or pharmacist before using DUROGESIC.

**While using the patch, tell your doctor if you have breathing problems while sleeping.** Opioids like DUROGESIC can cause sleep-related breathing disorders such as breathing pauses during sleep (sleep apnoea) and low oxygen level in the blood (sleep-related hypoxaemia). Tell your doctor if you, your partner or carer notice you have any of the following:

- breathing pauses during sleep
- night awakening due to shortness of breath
- difficulties staying asleep
- you feel excessively drowsy during the day.

Your doctor may decide to change your dose.

**While using the patch, tell your doctor if you notice a change in the pain you are feeling.** If you feel:

- your pain is no longer relieved by the patch
- an increase in pain
- there is a change in how you feel the pain (for example, you feel pain in another part of your body)
- pain when something touches your body that you wouldn't expect to hurt you.

Do not change the dose yourself. Your doctor may decide to change your dose or treatment.

### Side effects and DUROGESIC

- DUROGESIC may make you unusually drowsy, and make your breathing more slow or shallow. Very rarely these breathing problems can be life-threatening or even fatal, especially in people

who have not used strong opioid painkillers (like DUROGESIC or morphine) before. If you, or your partner or carer, notice that the person wearing the patch is unusually drowsy, with slow or shallow breathing:

- Take the patch off.
- Call a doctor, or go to your nearest hospital straight away.
- Keep the person moving and talking as much as possible.
- If you get a fever while using DUROGESIC, tell your doctor - this may increase the amount of medicine that passes through your skin.
- DUROGESIC may cause constipation, talk to your doctor or pharmacist for advice on how to prevent or relieve constipation.

Read section 4 for a full list of possible side effects.

DUROGESIC, like other opioids, may affect the normal production of hormones in the body such as cortisol, prolactin, or sex hormones, particularly if you have taken DUROGESIC for long periods of time. The effects of these hormonal changes may include feeling or being sick (including vomiting), loss of appetite, tiredness, weakness, dizziness, low blood pressure, infertility, or decreased sex drive. In addition, female patients may experience changes in menstrual cycle, while male patients may not be able to achieve an erection during sexual arousal or experience enlarged breasts. If you notice any of these signs, speak to your doctor.

When you are wearing the patch do not expose it to direct heat such as heating pads, electric blankets, hot-water bottles, heated water beds or heat or tanning lamps. Do not sunbathe, have long hot baths or saunas or use hot whirlpool spa baths. If you do, you may increase the amount of medicine you get from the patch.

### **Long-term use and tolerance**

This medicine contains fentanyl which is an opioid medicine. Repeated use of opioid painkillers can result in the drug being less effective (you become accustomed to it, known as drug tolerance). You may also become more sensitive to pain while using DUROGESIC. This is known as hyperalgesia. Increasing the dose of your patches may help to further reduce your pain for a while, but it may also be harmful. If you notice that your medicine becomes less effective, talk to your doctor. Your doctor will decide whether it is better for you to increase the dose or to gradually decrease your use of DUROGESIC.

### **Dependence and addiction**

Repeated use of DUROGESIC can also lead to dependence, abuse and addiction which may result in life-threatening overdose. The risk of these side effects can increase with a higher dose and longer duration of use. Dependence or addiction can make you feel that you are no longer in control of how much medicine you need to use or how often you need to use it. You might feel that you need to carry on using your medicine, even when it doesn't help to relieve your pain.

The risk of becoming dependent or addicted varies from person to person. You may have a greater risk of becoming dependent or addicted on DUROGESIC if:

- You or anyone in your family have ever abused or been dependent on alcohol, prescription medicines or illegal drugs ("addiction").
- You are a smoker.
- You have ever had problems with your mood (depression, anxiety or a personality disorder) or have been treated by a psychiatrist for other mental illness.

If you notice any of the following signs whilst using DUROGESIC, it could be a sign that you have become dependent or addicted.

- You need to use the medicine for longer than advised by your doctor.
- You need to use more than the recommended dose.
- You are using the medicine for reasons other than prescribed, for instance, 'to stay calm' or 'help you sleep'.

- You have made repeated, unsuccessful attempts to quit or control the use of the medicine.
- When you stop taking the medicine you feel unwell, and you feel better once using the medicine again ('withdrawal effects').

If you notice any of these signs, speak to your doctor to discuss the best treatment pathway for you, including when it is appropriate to stop and how to stop safely.

### **Withdrawal symptoms when stopping DUROGESIC**

Do not suddenly stop taking this medicine. Withdrawal symptoms such as restlessness, difficulty sleeping, irritability, agitation, anxiety, feeling your heartbeat (palpitations), increased blood pressure, feeling or being sick, diarrhoea, you have less appetite for food, shaking, shivering or sweating may occur. If you want to stop taking this medicine, talk to your doctor first. Your doctor will tell you how to do this. Usually this is done by reducing the dose gradually, so that you will suffer less from any unpleasant withdrawal effects.

### **Other medicines and DUROGESIC**

Tell your doctor or pharmacist if you are taking, have recently taken or might take any other medicines. This includes medicines that you buy without a prescription or herbal medicines. You should also tell your pharmacist that you are using DUROGESIC if you buy any medicines from your pharmacy.

Your doctor will know which medicines are safe to take with DUROGESIC. You may need to be closely monitored if you are taking some of the types of medicines listed below or if you stop taking some of the types of medicines listed below, as this may affect the strength of DUROGESIC you need.

In particular, tell your doctor or pharmacist if you are taking:

- Other medicines for pain, such as other opioid painkillers (such as buprenorphine, nalbuphine, or pentazocine) and some painkillers for nerve pain (gabapentin and pregabalin).
- Medicines for helping you sleep (such as temazepam, zaleplon, or zolpidem).
- Medicines to help you calm down (tranquillisers, such as alprazolam, clonazepam, diazepam, hydroxyzine, or lorazepam) and medicines for mental conditions (anti-psychotics, such as aripiprazole, haloperidol, olanzapine, risperidone, or phenothiazines).
- Medicines for relaxing your muscles (such as cyclobenzaprine or diazepam).
- Some medicines used to treat depression called SSRIs or SNRIs (such as citalopram, duloxetine, escitalopram, fluoxetine, fluvoxamine, paroxetine, sertraline, or venlafaxine). – see below for more information.
- Some medicines used to treat depression or Parkinson's disease called MAOIs (such as isocarboxazid, phenelzine, selegiline, or tranylcypromine). You should not take DUROGESIC within 14 days of stopping these medicines. – see below for more information.
- Some antihistamines, especially ones that make you sleepy (such as chlorpheniramine, clemastine, cyproheptadine, diphenhydramine, or hydroxyzine).
- Some antibiotics used to treat infection (such as erythromycin or clarithromycin).
- Medicines used to treat fungal infection (such as itraconazole, ketoconazole, fluconazole, or voriconazole).
- Medicines used to treat HIV infection (such as ritonavir).
- Medicines used to treat an irregular heart beat (such as amiodarone, diltiazem, or verapamil).
- Medicines to treat tuberculosis (such as rifampicin).
- Some medicines used to treat epilepsy (such as carbamazepine, phenobarbital, or phenytoin).
- Some medicines used to treat nausea or motion sickness (such as phenothiazines).
- Some medicines used to treat heartburn or ulcers (such as cimetidine).
- Some medicines used to treat angina (chest pain) or high blood pressure (such as nicardipine).
- Some medicines used to treat cancer of the blood (such as idelalisib).

### **DUROGESIC with antidepressants**

The risk of side effects increases if you are taking medicines such as certain antidepressants.

DUROGESIC may interact with these medicines and you may experience changes to mental status such as feeling agitated, seeing, feeling, hearing, or smelling things that are not there (hallucinations)



and other effects such as changing blood pressure, fast heart beat, high body temperature, overactive reflexes, lack of coordination, muscle stiffness, nausea, vomiting and diarrhoea (these could be signs of Serotonin Syndrome). If used together, your doctor may want to closely monitor you for such side effects in particular when starting treatment or when the dose of your medicine is changed.

**Use with central nervous system depressants, including alcohol and some narcotic drugs**

Concomitant use of DUROGESIC and sedative medicines such as benzodiazepines or related drugs increases the risk of drowsiness, difficulties in breathing (respiratory depression), coma and may be life-threatening. Because of this, you can only use DUROGESIC together with other medicines when other treatment options are not possible.

However if your doctor does prescribe DUROGESIC together with sedative medicines, your doctor should keep the dose as low as possible and the duration should be as short as possible.

Please tell your doctor about all sedative medicines you are taking, and follow your doctor's dose recommendation closely. It could be helpful to inform friends or relatives to be aware of the signs and symptoms stated above. Contact your doctor when experiencing such symptoms.

Do not drink alcohol while using DUROGESIC unless you have talked to your doctor first.

**Operations**

If you think that you are going to receive anaesthesia tell your doctor or dentist that you are using DUROGESIC.

**Pregnancy and breastfeeding**

If you are pregnant or breastfeeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before using this medicine.

DUROGESIC should not be used during pregnancy unless you have discussed this with your doctor.

DUROGESIC should not be used during childbirth as the medication can affect the breathing of the newborn child.

Prolonged use of DUROGESIC during pregnancy can cause withdrawal symptoms (such as high-pitched cry, jitteriness, fits, poor feeding and diarrhoea) in your newborn baby. These withdrawal symptoms can be life-threatening if not recognised and treated. Talk to your doctor immediately if you think your baby may have withdrawal symptoms.

Do not use DUROGESIC if you are breastfeeding. You should not breastfeed for 3 days after removing your DUROGESIC patch. This is because the medicine may pass into breast milk.

**Driving and using machines**

DUROGESIC can affect your ability to drive and use machines or tools as it may make you sleepy or dizzy. If this happens, do not drive or use any tools or machines. Do not drive while using this medicine until you know how it affects you.

Talk to your doctor or pharmacist if you are not sure whether it is safe for you to drive while taking this medicine.

### **3. How to use DUROGESIC**

Always use this medicine exactly as your doctor has told you. You should check with your doctor or pharmacist if you are not sure.

Your doctor will decide which strength of DUROGESIC is most suitable for you, taking into account the severity of your pain, your general condition and type of pain treatment that you have received so far.

Before starting treatment and regularly during treatment, your doctor will also discuss with you what you may expect from using DUROGESIC, when and how long you need to take it, when to contact your doctor, and when you need to stop it (see also section 2 '*Withdrawal symptoms when stopping DUROGESIC*').

### Using and changing the patches

- There is enough medicine in each patch to last **3 days (72 hours)**.
- You should change your patch every third day, unless your doctor has told you differently.
- Always remove the old patch **before** applying a new one.
- Always change your patch at the **same time** of day every 3 Days (72 hours).
- If you are using more than one patch, change all your patches at the same time.
- Make a note of the day, date and time you apply a patch, to remind you when you need to change your patch.
- The following table shows you when to change your patch:

Apply your patch on		Change your patch on
Monday	⇒	Thursday
Tuesday	⇒	Friday
Wednesday	⇒	Saturday
Thursday	⇒	Sunday
Friday	⇒	Monday
Saturday	⇒	Tuesday
Sunday	⇒	Wednesday

### Where to apply the patch

#### Adults

- Apply the patch on a flat part of your upper body or arm (not over a joint).

#### Children

- Always apply the patch to the upper back to make it difficult for your child to reach it or take it off.
- Every so often check that the patch remains stuck to the skin.
- It is important that your child does not remove the patch and put it in their mouth as this could be life-threatening or even fatal.
- Watch your child very closely for 48 hours after:
  - The first patch has been put on
  - A higher dose patch has been put on
- It may take some time for the patch to have its maximum effect. Therefore, your child might need to use other painkillers as well until the patches become effective. Your doctor will talk to you about this.

#### Adults and Children:

#### Do not apply the patch on

- The same place twice in a row.
- Areas that you move a lot (joints), skin that is irritated or with cuts.
- Skin that is very hairy. If there is hair, do not shave it (shaving irritates the skin). Instead, clip the hair as close to the skin as possible.

### Putting a patch on

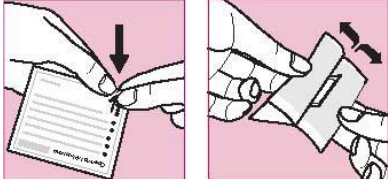
#### Step 1: Preparing the skin

- Make sure your skin is completely dry, clean and cool before you put the patch on

- If you need to clean the skin, just use cold water
- Do not use soap or any other cleansers, creams, moisturisers, oils or talc before applying the patch
- Do not stick a patch on straight after a hot bath or shower

### Step 2: Open the sachet

- Each patch is sealed in its own sachet
- Tear or cut open the sachet at the notch, shown by the arrow
- Gently tear or cut off the edge of the sachet completely (if you use scissors, cut close to the sealed edge of the sachet to avoid damaging the patch)



- Grasp both sides of the opened sachet and pull apart
- Take the patch out and use straight away
- Keep the empty sachet to dispose of the used patch later
- Use each patch once only
- Do not take the patch out of its sachet until you are ready to use it
- Inspect the patch for any damage
- Do not use the patch if it has been divided, cut or looks damaged
- Never divide or cut the patch

### Step 3: Peel and press

- Make sure that the patch will be covered by loose clothing and not stuck under a tight or elasticated band
- Carefully peel one half of the shiny plastic backing away from the centre of the patch. Try not to touch the sticky side of the patch
- Press this sticky part of the patch onto the skin
- Remove the other part of the backing and press the whole patch onto the skin with the palm of your hand
- Hold for at least 30 seconds. Make sure it sticks well, especially the edges

### Step 4: Disposing of the patch

- As soon as you take a patch off, fold it firmly in half so that the sticky side sticks to itself
- Put it back in its original sachet and dispose of the sachet as instructed by your pharmacist
- Keep used patches out of sight and reach of children – even used patches contain some medicine that may harm children and may even be fatal

### Step 5: Wash

- Always wash your hands after you have handled the patch using clean water only

## More about using DUROGESIC

### Everyday activities while using the patches

- The patches are waterproof
- You can shower or bathe while wearing a patch, but do not scrub the patch itself
- If your doctor agrees, you can exercise or play sport while wearing the patch
- You can also swim while wearing the patch, but:
  - Don't use hot whirlpool spa baths
  - Don't put a tight or elasticated band over the patch
- While you are wearing the patch do not expose it to direct heat such as heating pads, electric blankets, hot-water bottles, heated water beds, heat or tanning lamps. Do not sunbathe, have

long hot baths or saunas. If you do, you may increase the amount of medicine you get from the patch.

### **How quickly will the patches work?**

- It may take some time for your first patch to have its maximum effect.
- Your doctor may give you other painkillers as well for the first day or so.
- After this, the patch should help to relieve pain continuously so that you can stop taking other painkillers. However, your doctor may still prescribe extra painkillers from time to time.

### **How long will you use the patches for?**

- DUROGESIC patches are for long-term pain. Your doctor will be able to tell you how long you can expect to use the patches

### **If your pain gets worse**

- If your pain suddenly gets worse after placing of your last patch you should check your patch. If it is no longer sticking well or has fallen off you should replace the patch (*See also section If a patch falls off*).
- If your pain gets worse over time while you are using these patches, your doctor may try a higher strength patch, or give you additional painkillers (or both).
- If increasing the strength of the patch does not help, your doctor may decide to stop the use of the patches.

### **If you use too many patches or the wrong strength patch**

If you have stuck on too many patches or the wrong strength patch, take the patches off and contact a doctor straight away.

Signs of overdose include trouble breathing or shallow breathing, tiredness, extreme sleepiness, being unable to think clearly, walk or talk normally and feeling faint, dizzy or confused. An overdose may also result in a brain disorder known as toxic leukoencephalopathy.

### **If you forget to change your patch**

- If you forget, change your patch as soon as you remember and make note of the day and time. Change the patch again after **3 days (72 hours)** as usual.
- If you are very late changing your patch, you should talk to your doctor because you might need some extra painkillers, but do **not** apply an extra patch.

### **If a patch falls off**

- If a patch falls off before it needs changing, stick a new one on straight away and make note of the day and time. Use a new area of skin on:
  - Your upper body or arm
  - Your child's upper back
- Let your doctor know this has happened and leave the patch on for another **3 days (72 hours)** or as directed by your doctor, before changing the new patch as usual
- If your patches keep falling off, talk to your doctor, pharmacist or nurse

### **If you want to stop using the patches**

- Do not suddenly stop taking this medicine. If you want to stop taking this medicine, talk to your doctor first. Your doctor will tell you how to do this. Usually this is done by reducing the dose gradually, so that you will suffer less from any unpleasant withdrawal effects. See also section 2 '*Withdrawal symptoms when stopping DUROGESIC*'.
- If you stop using the patches, don't start again without asking your doctor first. You might need a different patch strength when you restart.

If you have any further questions on the use of this medicine, ask your doctor or pharmacist.

#### **4. Possible side effects**

Like all medicines, this medicine can cause side effects, although not everybody gets them.

**If you or your partner, or carer, notice any of the following about the person wearing the patch, take the patch off and call a doctor, or go to your nearest hospital, straight away. You may need urgent medical treatment.**

- Feeling unusually drowsy, breathing that is more slow or shallow than expected.  
Follow the advice above and keep the person who was wearing the patch moving and talking as much as possible. Very rarely these breathing difficulties can be life-threatening or even fatal, especially in people who have not used strong opioid painkillers (like DUROGESIC or morphine) before. (Uncommon, this may affect up to 1 in 100 people)
- Sudden swelling of the face or throat, severe irritation, reddening or blistering of your skin. These may be signs of a severe allergic reaction. (frequency cannot be estimated from the available data)
- Fits (seizures). (Uncommon, this may affect up to 1 in 100 people)
- Reduced consciousness or loss of consciousness. (Uncommon, these may affect up to 1 in 100 people)

**The following side effects have also been reported**

**Very common (may affect more than 1 in 10 people)**

- Nausea, vomiting, constipation
- Feeling sleepy (somnolence)
- Feeling dizzy
- Headache

**Common (may affect up to 1 in 10 people)**

- Allergic reaction
- Loss of appetite
- Difficulty sleeping
- Depression
- Feeling anxious or confused
- Seeing, feeling, hearing, or smelling things that are not there (hallucinations)
- Muscle tremors or spasms
- Unusual feeling in the skin, such as tingling or crawling feelings (paraesthesia)
- Spinning sensation (vertigo)
- Heart beat feels fast or uneven (palpitations, tachycardia)
- High blood pressure
- Being short of breath (dyspnoea)
- Diarrhoea
- Dry mouth
- Stomach pain or indigestion
- Excessive sweating
- Itching, skin rash or redness of the skin
- Being unable to pass urine or empty bladder completely
- Feeling very tired, weak or generally unwell
- Feeling cold
- Swollen hands, ankles or feet (peripheral oedema)

**Uncommon (may affect up to 1 in 100 people)**

- Feeling agitated or disoriented
- Feeling extremely happy (euphoria)
- Decreased feeling or sensitivity, especially in the skin (hypoesthesia)

- Loss of memory
- Blurred vision
- Slow heart beat (bradycardia) or low blood pressure
- Blue colour to the skin caused by low oxygen in the blood (cyanosis)
- Loss of contractions of the gut (ileus)
- Itchy skin rash (eczema), allergic reaction or other skin disorders where the patch is placed
- Flu-like illness
- Feeling of body temperature change
- Fever
- Muscle twitching
- Difficulty getting and keeping an erection (impotence) or problems having sex
- Difficulty in swallowing

**Rare side effects (may affect up to 1 in 1 000 people)**

- Constricted pupils (miosis)
- Stopping breathing from time to time (apnoea)

**The following side effects have also been reported, but their exact frequency is unknown:**

- Lack of male sex hormones (androgen deficiency)
- Delirium (symptoms may include a combination of agitation, restlessness, disorientation, confusion, fear, seeing or hearing things that are not really there, sleep disturbance, nightmares).
- You can become dependent on DUROGESIC (see section 2).

You may notice rashes, redness or slight itching of the skin at the site of the patch. This is usually mild and disappears after you have removed the patch. If it does not, or if the patch irritates your skin badly, tell your doctor.

Repeated use of the patches can make the medicine become less effective (you get used to it, or you may become more sensitive to pain), or you can become dependent on it.

If you switch from a different painkiller to DUROGESIC or if you suddenly stop using DUROGESIC, you may notice withdrawal effects such as sickness, feeling sick, diarrhoea, anxiety or shivering. Tell your doctor if you notice any of these effects.

There have been reports also of newborn infants experiencing withdrawal effects after their mothers have used DUROGESIC for a long time during pregnancy.

**Reporting of side effects**

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the Netherlands Bijwerkingen Centrum Lareb, website [www.lareb.nl](http://www.lareb.nl). By reporting side effects you can help provide more information on the safety of this medicine.

## **5. How to store DUROGESIC**

**Where you should keep the patches**

Keep all patches (used and unused) out of the sight and reach of children.

Store in the original pouch in order to protect from light. This medicine does not require any special temperature storage conditions.

Store this medicine in a safe and secure place, where other people cannot access it. It can cause serious harm and be fatal to people who may take this medicine by accident, or intentionally when it has not been prescribed for them.

### **How long to keep DUROGESIC for**

Do not use DUROGESIC after the expiry date, which is stated on the carton and sachet. The expiry date refers to the last date of that month. If the patches are out of date, take them to your pharmacy.

### **How to dispose of used patches or patches you no longer use**

A used or unused patch accidentally sticking to another person, especially a child, may be fatal.

Used patches should be folded firmly in half so that the sticky side of the patch sticks to itself. Then they should be safely discarded by putting them back into the original sachet and stored out of sight and reach of other people, especially children, until safely disposed. Ask your pharmacist how to throw away medicines you no longer use.

Do not throw away any medicines via wastewater or household waste. These measures will help protect the environment.

## **6. Contents of the pack and other information**

### **What DUROGESIC contains**

#### **DUROGESIC 12 µg/hour**

The active substance in DUROGESIC is fentanyl. Each patch contains 2.1 mg of fentanyl, which delivers a dose of 12 micrograms/hour.

#### **DUROGESIC 25 µg/hour**

The active substance in DUROGESIC is fentanyl. Each patch contains 4.2 mg of fentanyl, which delivers a dose of 25 micrograms/hour.

#### **DUROGESIC 50 µg/hour**

The active substance in DUROGESIC is fentanyl. Each patch contains 8.4 mg of fentanyl, which delivers a dose of 50 micrograms/hour.

#### **DUROGESIC 75 µg/hour**

The active substance in DUROGESIC is fentanyl. Each patch contains 12.6 mg of fentanyl, which delivers a dose of 75 micrograms/hour.

#### **DUROGESIC 100 µg/hour**

The active substance in DUROGESIC is fentanyl. Each patch contains 16.8 mg of fentanyl, which delivers a dose of 100 micrograms/hour.

### **Other ingredients in the patch are:**

Backing Layer: Film, Polyester/Ethylene Vinyl Acetate Copolymer,

Protective Liner: Film, Siliconized Polyester,

Drug Layer: Polyacrylate Adhesive

#### **Inks (on backing):**

The DUROGESIC 12 micrograms/hour patch also contains orange printing ink.

The DUROGESIC 25 micrograms/hour patch also contains red printing ink.

The DUROGESIC 50 micrograms/hour patch also contains green printing ink.

The DUROGESIC 75 micrograms/hour patch also contains blue printing ink.

The DUROGESIC 100 micrograms/hour patch also contains grey printing ink.

### **What DUROGESIC looks like and contents of the pack**

#### **DUROGESIC 12 µg/hour**

DUROGESIC is a translucent rectangular patch with rounded corners. Each patch is 5.25 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 12 µg fentanyl/h” in orange printing ink.

#### **DUROGESIC 25 µg/hour**

DUROGESIC is a translucent rectangular patch with rounded corners. Each patch is 10.5 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 25 µg fentanyl/h” in red printing ink.

**DUROGESIC 50 µg/hour**

DUROGESIC is a translucent rectangular patch with rounded corners. Each patch is 21.0 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 50 µg fentanyl/h” in green printing ink.

**DUROGESIC 75 µg/hour**

DUROGESIC is a translucent rectangular patch with rounded corners. Each patch is 31.5 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 75 µg fentanyl/h” in blue printing ink.

**DUROGESIC 100 µg/hour**

DUROGESIC is a translucent rectangular patch with rounded corners. Each patch is 42.0 cm<sup>2</sup>, and is marked with a border and “DUROGESIC 100 µg fentanyl/h” in grey printing ink.

The patches come in individually wrapped heat-sealed (acrylonitrile film or cyclic olefin copolymer) pouches, and come in cartons containing 3, 4, 5, 8, 10, 16, 20 or 30 patches.

Not all pack sizes may be marketed.

### Marketing Authorisation Holder and Manufacturer

Marketing Authorisation Holder:

Janssen-Cilag B.V.

Graaf Engelbertlaan 75

4837 DS Breda

E-mail: [janssen@jacnl.jnj.com](mailto:janssen@jacnl.jnj.com)

Manufacturer:

Janssen Pharmaceutica NV

Turnhoutseweg 30

2340 Beerse

Belgium

### Marketing Authorisation numbers

Durogesic 12 µg/hour: RVG 31418

Durogesic 25 µg/hour: RVG 16845

Durogesic 50 µg/hour: RVG 16846

Durogesic 75 µg/hour: RVG 16847

Durogesic 100 µg/hour: RVG 16848

**This medicinal product is authorised in the Member States of the European Economic Area and in the United Kingdom (Northern Ireland) under the following names:**

Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Greece, Hungary, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovenia, Sweden	Durogesic
Germany	Durogesic SMAT
Ireland, United Kingdom (Northern Ireland)	Durogesic DTrans
Spain	Durogesic Matrix

**This leaflet was last revised in October 2024.**