

## HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use DURAGESIC® safely and effectively. See full prescribing information for DURAGESIC.

DURAGESIC (Fentanyl Transdermal System) for transdermal administration, CII

Initial U.S. Approval: 1968

### WARNING: ABUSE POTENTIAL, RESPIRATORY DEPRESSION and DEATH, ACCIDENTAL EXPOSURE, CYTOCHROME P450 3A4 INTERACTION, AND EXPOSURE TO HEAT

*See full prescribing information for complete boxed warning.*

- Contains a high concentration of fentanyl, a Schedule II controlled substance, which is subject to misuse, abuse, addiction, and criminal diversion. (9)
- Fatal respiratory depression could occur in patients who are not opioid-tolerant and in patients that are opioid-tolerant even if DURAGESIC is not misused or abused. (5)
- Accidental exposure of DURAGESIC, especially in children, can result in a fatal overdose of fentanyl. (5)
- CYP 3A4 inhibitors can result in a fatal overdose of fentanyl from DURAGESIC. (5)
- Avoid exposing the DURAGESIC application site and surrounding area to direct external heat sources. Temperature dependent increases in fentanyl release from the system may result in overdose and death. (5)

### RECENT MAJOR CHANGES

Boxed Warning	07/2012
Indications and Usage (1)	07/2012
Dosage and Administration (2)	07/2012
Contraindications (4)	07/2012
Warnings and Precautions (5)	07/2012

### INDICATIONS AND USAGE

- DURAGESIC contains fentanyl, a full opioid agonist.
- DURAGESIC is indicated for the management of persistent, moderate to severe chronic pain in **opioid-tolerant** patients 2 years of age and older when a continuous, around-the-clock opioid analgesic is needed for an extended period of time. (1)
- DURAGESIC is NOT intended for use as an as-needed analgesic. (1)

### DOSAGE AND ADMINISTRATION

- Individualize treatment in every case as part of a pain management plan. (2)
- Initial dose selection: carefully select initial dose based on the status of each patient, consult conversion instructions. (2.1)
- Each transdermal system is intended to be worn for 72 hours. (2.2)
- Individually titrate to a tolerable dose that provides adequate analgesia. (2.2)
- Adhere to instructions concerning administration and disposal of DURAGESIC. (2.3)
- When DURAGESIC is no longer needed by the patient, taper the dose as part of a pain management plan. (2.4)
- Use with caution in the hepatic, and renally impaired patients. (2.2)

### DOSAGE FORMS AND STRENGTHS

- Transdermal system:** 12 mcg/h, 25 mcg/h, 50 mcg/h, 75 mcg/h, 100 mcg/h. (3)

### CONTRAINDICATIONS

- Opioid non-tolerant patients. (4)
- Impaired pulmonary function. (4)
- Paralytic ileus. (4)
- Known hypersensitivity to fentanyl or any of the components of the transdermal system. (4)

### WARNINGS AND PRECAUTIONS

- DURAGESIC can be abused. Use caution when prescribing if there is an increased risk of misuse, abuse, or diversion. (5.1)
- Fatal respiratory depression can occur with DURAGESIC. Monitor patients accordingly. Use with extreme caution in patients at risk of respiratory depression. (5.2)
- Accidental exposure of DURAGESIC, especially in children, can result in a fatal overdose of fentanyl. (5.3)
- Use DURAGESIC with extreme caution in patients susceptible to intracranial effects of CO<sub>2</sub> retention. (5.6)
- DURAGESIC may have additive effects when used in conjunction with other CNS depressants, alcohol, and drugs of abuse. (5.7)
- Use of DURAGESIC with a CYP3A4 inhibitor may result in an increase in fentanyl plasma concentrations. Monitor patients accordingly and adjust dosage if necessary. (5.8)
- DURAGESIC may produce bradycardia. Administer with caution to patients with bradyarrhythmias. (5.11)
- Use DURAGESIC with caution in patients with pancreatic/biliary disease. (5.14)

### ADVERSE REACTIONS

The most common adverse reactions (≥5%) in a double-blind, randomized, placebo-controlled clinical trial in patients with severe pain were nausea, vomiting, somnolence, dizziness, insomnia, constipation, hyperhidrosis, fatigue, feeling cold, and anorexia. Other common adverse reactions (≥5%) reported in clinical trials in patients with chronic malignant or nonmalignant pain were headache and diarrhea. (6.0)

To report SUSPECTED ADVERSE REACTIONS, call 1-800-526-7736 or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch).

### DRUG INTERACTIONS

- Monitor patients receiving DURAGESIC and any CYP3A4 inhibitor for an extended period of time and adjust dosage, if necessary. (7.1)
- Use CNS Depressants with caution and in reduced dosage in patients who are receiving DURAGESIC. (7.2)
- Avoid DURAGESIC in patients taking a monoamine oxidase (MAO) inhibitor or within 14 days of stopping such treatment. (7.3)

### USE IN SPECIFIC POPULATIONS

- Pregnancy: Based on animal data, may cause fetal harm. (8.1)
- Nursing Mothers: Breast-feeding is not advised in mothers treated with DURAGESIC. (8.3)
- Pediatric Use: Safety and efficacy in pediatric patients below the age of 2 years have not been established. To guard against accidental ingestion by children, use caution when choosing the application site for DURAGESIC. (8.4)
- Geriatric Use: Administer DURAGESIC with caution, and in reduced dosages in elderly patients. (8.5)
- Hepatic or Renal Impairment: Administer DURAGESIC with caution. Monitor for signs of fentanyl toxicity and reduce dosage, if necessary. (8.6, 8.7)

See 17 for PATIENT COUNSELING INFORMATION and Medication Guide.

Revised: 07/2012

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## FULL PRESCRIBING INFORMATION

### **WARNING: ABUSE POTENTIAL , RESPIRATORY DEPRESSION and DEATH, ACCIDENTAL EXPOSURE, CYTOCHROME P450 3A4 INTERACTION, AND EXPOSURE TO HEAT**

#### **Abuse Potential**

DURAGESIC contains fentanyl, an opioid agonist and a Schedule II controlled substance with an abuse liability similar to other opioid analgesics. DURAGESIC can be abused in a manner similar to other opioid agonists, legal or illicit. Persons at increased risk for opioid abuse include those with a personal or family history of substance abuse (including drug or alcohol abuse or addiction) or mental illness (e.g., major depression). Assess patients for their clinical risks for opioid abuse or addiction prior to prescribing DURAGESIC and then routinely monitor all patients for signs of misuse, abuse and addiction during treatment [*see Warnings and Precautions (5.1) and Drug Abuse and Dependence (9)*].

#### **Respiratory Depression and Death**

Respiratory depression and death may occur with use of DURAGESIC, even when DURAGESIC has been used as recommended and not misused or abused. Proper dosing and titration are essential and DURAGESIC should only be prescribed by healthcare professionals who are knowledgeable in the use of potent opioids for the management of chronic pain. DURAGESIC is contraindicated for use in conditions in which the risk of life-threatening respiratory depression is significantly increased, including use as an as-needed analgesic, use in non-opioid tolerant patients, acute pain, and postoperative pain. Monitor for respiratory depression, especially during the first two applications following initiation of dosing, or following an increase in dosage [*see Contraindications (4) and Warnings and Precautions (5.2)*].

#### **Accidental Exposure**

Death and other serious medical problems have occurred when children and adults were accidentally exposed to DURAGESIC. Advise patients about strict adherence to the recommended handling and disposal instructions in order to prevent accidental exposure [*see Dosage and Administration (2.3) (2.4) and Warnings and Precautions (5.3)*].

#### **Cytochrome P450 3A4 Interaction**

The concomitant use of DURAGESIC with all cytochrome P450 3A4 inhibitors may result in an increase in fentanyl plasma concentrations, which could increase or prolong adverse drug effects and may cause potentially fatal respiratory depression. Monitor patients receiving DURAGESIC and any CYP3A4 inhibitor [*see Warnings and Precautions (5.8)*],

*and Clinical Pharmacology (12.3)].*

### **Exposure To Heat**

The DURAGESIC application site and surrounding area must not be exposed to direct external heat sources, such as heating pads or electric blankets, heat or tanning lamps, sunbathing, hot baths, saunas, hot tubs, and heated water beds. Exposure to heat may increase fentanyl absorption and there have been reports of overdose and death as a result of exposure to heat (5.9). Patients wearing DURAGESIC systems who develop fever or increased core body temperature due to strenuous exertion are also at risk for increased fentanyl exposure and may require an adjustment in the dose of DURAGESIC to avoid overdose and death (5.10).

## **1 INDICATIONS AND USAGE**

DURAGESIC is a transdermal formulation of fentanyl indicated for the management of persistent, moderate to severe chronic pain in opioid-tolerant patients 2 years of age and older when a continuous, around-the-clock opioid analgesic is required for an extended period of time, and the patient cannot be managed by other means such as non-steroidal analgesics, opioid combination products, or immediate-release opioids.

Patients considered opioid-tolerant are those who are taking at least 60 mg of morphine daily, or at least 30 mg of oral oxycodone daily, or at least 8 mg of oral hydromorphone daily, or an equianalgesic dose of another opioid for a week or longer.

## **2 DOSAGE AND ADMINISTRATION**

### **2.1 Proper Patient Selection**

#### *Abuse Potential*

Assess patients for their clinical risks for opioid abuse or addiction prior to being prescribing DURAGESIC [see *Warnings and Precautions (5.1)*].

#### *Opioid Tolerance*

Opioid tolerance to an opioid of comparable potency must be established before prescribing DURAGESIC [see *Warnings and Precautions (5.2)*].

Patients considered opioid-tolerant are those who are taking at least 60 mg of morphine daily, or at least 30 mg of oral oxycodone daily, or at least 8 mg of oral hydromorphone daily or an equianalgesic dose of another opioid for a week or longer.

## 2.2 Dosing

### *Conversion to DURAGESIC in Opioid-Tolerant Patients*

The recommended starting dose when converting from other opioids to DURAGESIC is intended to minimize the potential for overdosing patients with the first dose. Monitor patients closely for respiratory depression, especially within the first 24-72 hours of initiating therapy with DURAGESIC [see *Warnings and Precautions* (5.2)].

In selecting an initial DURAGESIC dose, take the following factors into account:

1. the daily dose, potency, and characteristics of the opioid the patient has been taking previously (e.g., whether it is a pure agonist or mixed agonist-antagonist);
2. the reliability of the relative potency estimates used to calculate the DURAGESIC dose needed (potency estimates may vary with the route of administration);
3. the degree of opioid tolerance;
4. the general condition and medical status of the patient.

To convert adult and pediatric patients from oral or parenteral opioids to DURAGESIC, use Table 1. **Do not use Table 1 to convert from DURAGESIC to other therapies because this conversion to DURAGESIC is conservative and will overestimate the dose of the new agent.**

**TABLE 1<sup>1</sup>: DOSE CONVERSION GUIDELINES**

Current Analgesic	Daily Dosage (mg/day)			
Oral morphine	60-134	135-224	225-314	315-404
Intramuscular or Intravenous morphine	10-22	23-37	38-52	53-67
Oral oxycodone	30-67	67.5-112	112.5-157	157.5-202
Oral codeine	150-447			
Oral hydromorphone	8-17	17.1-28	28.1-39	39.1-51
Intravenous hydromorphone	1.5-3.4	3.5-5.6	5.7-7.9	8-10
Intramuscular meperidine	75-165	166-278	279-390	391-503
Oral methadone	20-44	45-74	75-104	105-134
	↓	↓	↓	↓
Recommended DURAGESIC Dose	25 mcg/hour	50 mcg/hour	75 mcg/hour	100 mcg/hour

Alternatively, for adult and pediatric patients taking opioids or doses not listed in Table 1, use the conversion methodology outlined above with Table 2.

<sup>1</sup> Table 1 should not be used to convert from DURAGESIC to other therapies because this conversion to DURAGESIC is conservative. Use of Table 1 for conversion to other analgesic therapies can overestimate the dose of the new agent. Overdosage of the new analgesic agent is possible [see *Dosage and Administration* (2.3)].

Alternatively, for adult and pediatric patients taking opioids or doses not listed in Table 1, use the following methodology:

1. Calculate the previous 24-hour analgesic requirement.
2. Convert this amount to the equianalgesic oral morphine dose using a reliable reference.

Refer to Table 2 for the range of 24-hour oral morphine doses that are recommended for conversion to each DURAGESIC dose. Use this table to find the calculated 24-hour morphine dose and the corresponding DURAGESIC dose. Initiate DURAGESIC treatment using the recommended dose and titrate patients upwards (no more frequently than 3 days after the initial dose and every 6 days thereafter) until analgesic efficacy is attained.

3. **Do not use Table 2 to convert from DURAGESIC to other therapies** because this conversion to DURAGESIC is conservative and will overestimate the dose of the new agent.

**TABLE 2<sup>1</sup>: RECOMMENDED INITIAL DURAGESIC DOSE BASED UPON DAILY ORAL MORPHINE DOSE**

Oral 24-hour Morphine (mg/day)	DURAGESIC Dose (mcg/hour)
60-134	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
945-1034	275
1035-1124	300

NOTE: In clinical trials, these ranges of daily oral morphine doses were used as a basis for conversion to DURAGESIC.

<sup>1</sup> Table 2 should not be used to convert from DURAGESIC to other therapies because this conversion to DURAGESIC is conservative. Use of Table 2 for conversion to other analgesic therapies can overestimate the dose of the new agent. Overdosage of the new analgesic agent is possible [see *Dosage and Administration* (2.3)].

For delivery rates in excess of 100 mcg/hour, multiple systems may be used.

### *Hepatic Impairment*

Avoid the use of DURAGESIC in patients with severe hepatic impairment. In patients with mild to moderate hepatic impairment, start with one half of the usual dosage of DURAGESIC. Closely monitor for signs of sedation and respiratory depression, including at each dosage increase [see *Warnings and Precautions* (5.12), *Use in Specific Populations* (8.6) and *Clinical Pharmacology* (12.3)].

### *Renal Impairment*

Avoid the use of DURAGESIC in patients with severe renal impairment. In patients with mild to moderate renal impairment, start with one half of the usual dosage of DURAGESIC. Closely monitor for signs of sedation and respiratory depression, including at each dosage increase [*see Warnings and Precautions (5.13), Use in Specific Populations (8.7) and Clinical Pharmacology (12.3)*].

## **2.3 Titration and Maintenance of Therapy**

Once therapy is initiated, assess pain intensity and opioid adverse reactions frequently, especially respiratory depression [*see Warnings and Precautions (5.2)*]. Routinely monitor all patients for signs of misuse, abuse and addiction [*see Warnings and Precautions (5.1)*].

The initial DURAGESIC dose may be increased after 3 days based on the daily dose of supplemental opioid analgesics required by the patient on the second or third day of the initial application.

It may take up to 6 days for fentanyl levels to reach equilibrium on a new dose [*see Clinical Pharmacology (12.3)*]. Therefore, evaluate patients for further titration after no less than two 3-day applications before any further increase in dosage is made.

Base dosage increments on the daily dosage of supplementary opioids, using the ratio of 45 mg/24 hours of oral morphine to a 12 mcg/hour increase in DURAGESIC dose.

The majority of patients are adequately maintained with DURAGESIC administered every 72 hours. Some patients may not achieve adequate analgesia using this dosing interval and may require systems to be applied at 48 hours rather than at 72 hours, only if adequate pain control cannot be achieved using a 72-hour regimen. An increase in the DURAGESIC dose should be evaluated before changing dosing intervals in order to maintain patients on a 72-hour regimen. Dosing intervals less than every 72 hours were not studied in children and adolescents and are not recommended.

### *Discontinuation of DURAGESIC*

To convert patients to another opioid, remove DURAGESIC and titrate the dose of the new analgesic based upon the patient's report of pain until adequate analgesia has been attained. Upon system removal, 17 hours or more are required for a 50% decrease in serum fentanyl concentrations. Withdrawal symptoms are possible in some patients after conversion or dose adjustment [*see Warnings and Precautions (5.15)*].



**Do not use Tables 1 and 2 to convert from DURAGESIC to other therapies to avoid overestimating the dose of the new agent potentially resulting in overdose of the new analgesic and death.**

When discontinuing DURAGESIC and not converting to another opioid, use a gradual downward titration, such as halving the dose every 6 days, in order to reduce the possibility of withdrawal symptoms [see *Warnings and Precautions (5.15)*]. It is not known at what dose level DURAGESIC may be discontinued without producing the signs and symptoms of opioid withdrawal.

## **2.4 Administration of DURAGESIC**

**DURAGESIC patches are for transdermal use, only.**

**Proper handling of DURAGESIC is advised in order to prevent adverse reactions, including death, associated with accidental secondary exposure to DURAGESIC [see *Warnings and Precautions (5.3)*].**

### *Application and Handling Instructions*

- Patients should apply DURAGESIC to intact, non-irritated, and non-irradiated skin on a flat surface such as the chest, back, flank, or upper arm. In young children and persons with cognitive impairment, adhesion should be monitored and the upper back is the preferred location to minimize the potential of inappropriate patch removal. Hair at the application site may be clipped (not shaved) prior to system application. If the site of DURAGESIC application must be cleansed prior to application of the patch, do so with clear water. Do not use soaps, oils, lotions, alcohol, or any other agents that might irritate the skin or alter its characteristics. Allow the skin to dry completely prior to patch application.
- Patients should apply DURAGESIC immediately upon removal from the sealed package. The patch must not be altered (e.g., cut) in any way prior to application. DURAGESIC should not be used if the pouch seal is broken or if the patch is cut or damaged.
- The transdermal system is pressed firmly in place with the palm of the hand for 30 seconds, making sure the contact is complete, especially around the edges.
- Each DURAGESIC patch may be worn continuously for 72 hours. The next patch is applied to a different skin site after removal of the previous transdermal system.
- If problems with adhesion of the DURAGESIC patch occur, the edges of the patch may be taped with first aid tape. If problems with adhesion persist, the patch may be overlaid with a transparent adhesive film dressing.



- If the patch falls off before 72 hours, dispose of it by folding in half and flushing down the toilet. A new patch may be applied to a different skin site.
- Patients (or caregivers who apply DURAGESIC) should wash their hands immediately with soap and water after applying DURAGESIC.
- Contact with unwashed or unclothed application sites can result in secondary exposure to DURAGESIC and should be avoided. Examples of accidental exposure include transfer of a DURAGESIC patch from an adult's body to a child while hugging, sharing the same bed as the patient, accidental sitting on a patch and possible accidental exposure of a caregiver's skin to the medication in the patch while applying or removing the patch.
- Instruct patients, family members, and caregivers to keep patches in a secure location out of the reach of children and of others for whom DURAGESIC was not prescribed.

#### *Avoidance of Heat*

Instruct patients to avoid exposing the DURAGESIC application site and surrounding area to direct external heat sources, such as heating pads or electric blankets, heat or tanning lamps, sunbathing, hot baths, saunas, hot tubs, and heated water beds, while wearing the system [*see Warnings and Precautions (5.9)*].

## **2.5 Disposal Instructions**

**Proper disposal of DURAGESIC is advised in order to prevent adverse reactions, including death, associated with accidental secondary exposure to DURAGESIC [*see Warnings and Precautions (5.3)*].**

Patients should dispose of used patches by folding the adhesive side of the patch to itself, then flush the patch down the toilet immediately upon removal.

Patients should dispose of any patches remaining from a prescription as soon as they are no longer needed. Unused patches should be removed from their pouches, fold so that the adhesive side of the patch adheres to itself, and flush down the toilet.

### 3 DOSAGE FORMS AND STRENGTHS

DURAGESIC is available as:

- DURAGESIC 12 mcg/hour\* Transdermal System (system size 5.25 cm<sup>2</sup>) is orange in color.
- DURAGESIC 25 mcg/hour Transdermal System (system size 10.5 cm<sup>2</sup>) is pink in color.
- DURAGESIC 50 mcg/hour Transdermal System (system size 21 cm<sup>2</sup>) is green in color.
- DURAGESIC 75 mcg/hour Transdermal System (system size 31.5 cm<sup>2</sup>) is blue in color.
- DURAGESIC 100 mcg/hour Transdermal System (system size 42 cm<sup>2</sup>) is gray in color.

\*This lowest dosage is designated as 12 mcg/hour (however, the actual dosage is 12.5 mcg/hour) to distinguish it from a 125 mcg/h dosage that could be prescribed by multiple patches.

### 4 CONTRAINDICATIONS

DURAGESIC is contraindicated in the following patients and situations due to the risk of fatal respiratory depression:

- in patients who are not opioid-tolerant [*see Warnings and Precautions (5.2)*].
- in the management of acute or intermittent pain, or in patients who require opioid analgesia for a short period of time [*see Warnings and Precautions (5.2)*].
- in the management of post-operative pain, including use after out-patient or day surgeries, (e.g., tonsillectomies) [*see Warnings and Precautions (5.2)*].
- in the management of mild pain [*see Warnings and Precautions (5.2)*].
- in patients with significant respiratory compromise, especially if adequate monitoring and resuscitative equipment are not readily available [*see Warnings and Precautions (5.2)*].
- in patients who have acute or severe bronchial asthma [*see Warnings and Precautions (5.2)*].

DURAGESIC is also contraindicated:

- in patients who have or are suspected of having paralytic ileus

- in patients with known hypersensitivity to fentanyl or any components of the transdermal system. Severe hypersensitivity reactions, including anaphylaxis have been observed with DURAGESIC [see *Adverse Reactions* (6.2)].

## 5 WARNINGS AND PRECAUTIONS

### 5.1 Abuse Potential

DURAGESIC contains fentanyl, an opioid agonist and a Schedule II controlled substance with an abuse liability similar to other opioid analgesics. Schedule II opioid substances which include hydromorphone, morphine, oxycodone, fentanyl, oxymorphone and methadone have the highest potential for abuse and risk of fatal overdose due to respiratory depression. DURAGESIC can be abused in a manner similar to other opioid agonists, legal or illicit. These risks should be considered when administering, prescribing, or dispensing DURAGESIC in situations where the healthcare professional is concerned about increased risk of misuse, abuse, or diversion [see *Drug Abuse and Dependence* (9)].

Assess patients for their clinical risks for opioid abuse or addiction prior to being prescribed opioids. Routinely monitor all patients receiving opioids for signs of misuse, abuse and addiction since use of opioid analgesic products carries the risk of addiction even under appropriate medical use. Persons at increased risk for opioid abuse include those with a personal or family history of substance abuse (including drug or alcohol abuse or addiction) or mental illness (e.g., major depression). Patients at increased risk may still be appropriately treated with modified-release opioid formulations; however these patients will require intensive monitoring for signs of misuse, abuse, or addiction. Concerns about abuse, addiction, and diversion should not prevent the proper management of pain.

Contact local state professional licensing board or state controlled substances authority for information on how to prevent and detect abuse or diversion of this product.

### 5.2 Respiratory Depression and Death

Respiratory depression is the chief hazard of DURAGESIC. Respiratory depression, if not immediately recognized and treated, may lead to respiratory arrest and death.

DURAGESIC has a narrow indication and should be prescribed only by healthcare professionals who are knowledgeable in the administration of potent opioids and management of chronic pain [see *Indications and Usage* (1)]. DURAGESIC is contraindicated for use in conditions in which the risk of life-threatening respiratory depression is significantly increased, including use as an as-needed analgesic, use in non-opioid tolerant patients, acute pain, and postoperative pain [see *Contraindications* (4)]. Proper dosing and titration of DURAGESIC are essential [see *Dosage and Administration* (2.3)]. Overestimating the DURAGESIC dose when converting patients from

another opioid medication, can result in fatal overdose with the first dose. However, respiratory depression has also been reported with use of DURAGESIC in patients who are opioid-tolerant, even when DURAGESIC has been used as recommended and not misused or abused.

The mean half-life of fentanyl when delivered by DURAGESIC is approximately 20-27 hours. Serum fentanyl concentrations continue to rise for the first two system applications. In addition, significant amounts of fentanyl continue to be absorbed from the skin for 24 hours or more after the patch is removed [*see Clinical Pharmacology (12.3)*].

Respiratory depression from opioids is manifested by a reduced urge to breathe and a decreased rate of respiration, often associated with a “sighing” pattern of breathing (deep breaths separated by abnormally long pauses). Carbon dioxide retention from opioid-induced respiratory depression can exacerbate the sedating effects of opioids.

While serious, life-threatening or fatal respiratory depression can occur at any time during the use of DURAGESIC, the potential for serious, life threatening, or fatal respiratory depression is greatest during the first two applications following initiation of dosing, or following an increase in dosage. Closely monitor patients for respiratory depression when initiating therapy with DURAGESIC, especially within the initial 24-72 hours when serum concentrations from the initial patch will peak, and following increases in dosage. Because significant amounts of fentanyl continue to be absorbed from the skin for 24 hours or more after the patch is removed, respiratory depression may persist beyond the removal of DURAGESIC. Monitor patients for respiratory depression after patch removal to ensure that the patient’s respiration has stabilized for at least 24 to 72 hours or longer as clinical symptoms dictate.

Management of respiratory depression may include close observation, supportive measures, and use of opioid antagonists, depending on the patient’s clinical status [*see Overdose (10.2)*].

### **5.3 Accidental Exposure**

A considerable amount of active fentanyl remains in DURAGESIC even after use as directed. Death and other serious medical problems have occurred when children and adults were accidentally exposed to DURAGESIC. Accidental or deliberate application or ingestion by a child or adolescent will cause respiratory depression that could result in death. Placing DURAGESIC in the mouth, chewing it, swallowing it, or using it in ways other than indicated may cause choking or overdose that could result in death.

Advise patients about strict adherence to the recommended handling and disposal instructions in order to prevent accidental exposure to DURAGESIC (*see Dosage and Administration (2.4) (2.5)*).

#### **5.4 Elderly, Cachectic, and Debilitated Patients**

Respiratory depression is more likely to occur in elderly, cachectic, or debilitated patients as they may have altered pharmacokinetics due to poor fat stores, muscle wasting, or altered clearance. Therefore, monitor these patients closely, particularly when initiating therapy with DURAGESIC and when given in conjunction with other drugs that depress respiration [*see Warnings and Precautions (5.2) and Use in Specific Populations (8.5)*].

#### **5.5 Chronic Pulmonary Disease**

Monitor patients with significant chronic obstructive pulmonary disease or cor pulmonale, and patients having a substantially decreased respiratory reserve, hypoxia, hypercapnia, or pre-existing respiratory depression for respiratory depression, particularly when initiating therapy with DURAGESIC, as in these patients, even usual therapeutic doses of DURAGESIC may decrease respiratory drive to the point of apnea [*see Warnings and Precautions (5.2)*]. Consider the use of alternative non-opioid analgesics in these patients if possible.

#### **5.6 Head Injuries and Increased Intracranial Pressure**

Avoid use of DURAGESIC 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 [*see Warnings and Precautions (5.2)*]. In addition, opioids may obscure the clinical course of patients with head injury. Monitor patients with brain tumors who may be susceptible to the intracranial effects of CO<sub>2</sub> retention for signs of sedation and respiratory depression, particularly when initiating therapy with DURAGESIC, as DURAGESIC may reduce respiratory drive and CO<sub>2</sub> retention can further increase intracranial pressure.

#### **5.7 Interactions with Other CNS Depressants, Alcohol, and Drugs of Abuse**

The concomitant use of DURAGESIC with other central nervous system depressants, including, but not limited to, other opioids, sedatives, hypnotics, tranquilizers (e.g., benzodiazepines), general anesthetics, phenothiazines, skeletal muscle relaxants, and alcohol, may cause respiratory depression, hypotension, and profound sedation or coma. Monitor patients prescribed concomitant CNS active drugs for signs of sedation and respiratory depression, particularly when initiating therapy with DURAGESIC, and reduce the dose of one or both agents [*see Warnings and Precautions (5.2)*].

#### **5.8 Interactions with CYP3A4 Inhibitors**

The concomitant use of DURAGESIC with a CYP3A4 inhibitors (such as ritonavir, ketoconazole, itraconazole, troleandomycin, clarithromycin, nelfinavir, nefazadone, amiodarone, amprenavir, aprepitant, diltiazem, erythromycin, fluconazole, fosamprenavir, verapamil) may result in an increase in fentanyl plasma concentrations, which could increase or prolong adverse

drug effects and may cause potentially fatal respiratory depression. Carefully monitor patients receiving DURAGESIC and any CYP3A4 inhibitor for signs of sedation and respiratory depression for an extended period of time, and make dosage adjustments if warranted [*see Warnings and Precautions (5.2), Drug Interactions (7.1) and Clinical Pharmacology (12.3)*].

### **5.9 Application of External Heat**

Exposure to heat may increase fentanyl absorption and there have been reports of overdose and death as a result of exposure to heat. A clinical pharmacology study conducted in healthy adult subjects has shown that the application of heat over the DURAGESIC system increased fentanyl exposure [*see Clinical Pharmacology (12.3)*].

Warn patients to avoid exposing the DURAGESIC application site and surrounding area to direct external heat sources [*see Dosage and Administration (2.4)*].

### **5.10 Patients with Fever**

Based on a pharmacokinetic model, serum fentanyl concentrations could theoretically increase by approximately one-third for patients with a body temperature of 40°C (104°F) due to temperature-dependent increases in fentanyl released from the system and increased skin permeability. Monitor patients wearing DURAGESIC systems who develop fever closely for opioid side effects and reduce the DURAGESIC dose if necessary. Warn patients to avoid strenuous exertion that leads to increased core body temperature while wearing DURAGESIC to avoid the risk of potential overdose and death.

### **5.11 Cardiac Disease**

DURAGESIC may produce bradycardia. Monitor patients with bradyarrhythmias closely for changes in heart rate, particularly when initiating therapy with DURAGESIC.

### **5.12 Hepatic Impairment**

A clinical pharmacology study with DURAGESIC in patients with cirrhosis has shown that systemic fentanyl exposure increased in these patients. Because of the long half-life of fentanyl when administered as DURAGESIC and hepatic metabolism of fentanyl, avoid use of DURAGESIC in patients with severe hepatic impairment. Insufficient information exists to make precise dosing recommendations regarding the use of DURAGESIC in patients with impaired hepatic function. Therefore, to avoid starting patients with mild to moderate hepatic impairment on too high of a dose, start with one half of the usual dosage of DURAGESIC. Closely monitor for signs of sedation and respiratory depression, including at each dosage increase. [*see Dosing and Administration (2.2), Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)*].

### 5.13 Renal Impairment

A clinical pharmacology study with intravenous fentanyl in patients undergoing kidney transplantation has shown that patients with high blood urea nitrogen level had low fentanyl clearance. Because of the long half-life of fentanyl when administered as DURAGESIC, avoid the use of DURAGESIC in patients with severe renal impairment. Insufficient information exists to make precise dosing recommendations regarding the use of DURAGESIC in patients with impaired renal function. Therefore, to avoid starting patients with mild to moderate renal impairment on too high of a dose, start with one half of the usual dosage of DURAGESIC. Closely monitor for signs of sedation and respiratory depression, including at each dosage increase [*see Dosing and Administration (2.2), Use in Specific Populations (8.7) and Clinical Pharmacology (12.3)*].

### 5.14 Use in Pancreatic/Biliary Tract Disease

DURAGESIC may cause spasm of the sphincter of Oddi. Monitor patients with biliary tract disease, including acute pancreatitis for worsened symptoms. DURAGESIC may cause increases in the serum amylase concentration.

### 5.15 Avoidance of Withdrawal

Opioid withdrawal symptoms (such as nausea, vomiting, diarrhea, anxiety, and shivering) are possible in some patients after conversion to another opioid or when decreasing or discontinuing DURAGESIC. Gradual reduction of the dose of DURAGESIC is recommended [*see Dosage and Administration (2.3) and Drug Abuse and Dependence (9)*].

### 5.16 Driving and Operating Machinery

Strong opioid analgesics impair the mental or physical abilities required for the performance of potentially dangerous tasks, such as driving a car or operating machinery. Warn patients not to drive or operate dangerous machinery unless they are tolerant to the effects of the DURAGESIC.

## 6 ADVERSE REACTIONS

The following serious adverse reactions are discussed elsewhere in the labeling:

- Abuse Potential [*see Warnings and Precautions (5.1)*]
- Respiratory Depression [*see Warnings and Precautions (5.2)*]
- Accidental Exposure [*see Warnings and Precautions (5.3)*]
- Elderly, Cachetic, and Debilitated Patients [*see Warnings and Precautions (5.4)*]
- Chronic Pulmonary Disease [*see Warnings and Precautions (5.5)*]



- Head Injuries and Increased Intracranial Pressure *[see Warnings and Precautions (5.6)]*
- Interactions with Other CNS Depressants, Alcohol, and Drugs of Abuse *[see Warnings and Precautions (5.7)]*
- Interactions with CYP3A4 Inhibitors *[see Warnings and Precautions (5.8)]*
- Application of External Heat *[see Warnings and Precautions (5.9)]*
- Patients with Fever *[see Warnings and Precautions (5.10)]*
- Cardiac Disease *[see Warnings and Precautions (5.11)]*
- Hepatic Impairment *[see Warnings and Precautions (5.12)]*
- Renal Impairment *[see Warnings and Precautions (5.13)]*
- Use in Pancreatic/Biliary Tract Disease *[see Warnings and Precautions (5.14)]*
- Avoidance of Withdrawal *[see Warnings and Precautions (5.15)]*
- Driving and Operating Machinery *[see Warnings and Precautions (5.16)]*

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

### **6.1 Clinical Trial Experience**

The safety of DURAGESIC was evaluated in 216 patients who took at least one dose of DURAGESIC in a multicenter, double-blind, randomized, placebo-controlled clinical trial of DURAGESIC. This trial examined patients over 40 years of age with severe pain induced by osteoarthritis of the hip or knee and who were in need of and waiting for joint replacement.

The most common adverse reactions ( $\geq 5\%$ ) in a double-blind, randomized, placebo-controlled clinical trial in patients with severe pain were nausea, vomiting, somnolence, dizziness, insomnia, constipation, hyperhidrosis, fatigue, feeling cold, and anorexia. Other common adverse reactions ( $\geq 5\%$ ) reported in clinical trials in patients with chronic malignant or nonmalignant pain were headache and diarrhea. Adverse reactions reported for  $\geq 1\%$  of DURAGESIC-treated patients and with an incidence greater than placebo-treated patients are shown in Table 3.

The most common adverse reactions that were associated with discontinuation in patients with pain (causing discontinuation in  $\geq 1\%$  of patients) were depression, dizziness, somnolence, headache, nausea, vomiting, constipation, hyperhidrosis, and fatigue.

**Table 3.** Adverse Reactions Reported by  $\geq 1\%$  of DURAGESIC-treated Patients and With an Incidence Greater Than Placebo-treated Patients in 1 Double-Blind, Placebo-Controlled Clinical Trial of DURAGESIC

<b>System/Organ Class</b>	<b>DURAGESIC</b>	<b>Placebo</b>
<b>Adverse Reaction</b>	<b>% (N=216)</b>	<b>% (N=200)</b>
<b>Cardiac disorders</b>		
Palpitations	4	1
<b>Ear and labyrinth disorders</b>		
Vertigo	2	1
<b>Gastrointestinal disorders</b>		
Nausea	41	17
Vomiting	26	3
Constipation	9	1
Abdominal pain upper	3	2
Dry mouth	2	0
<b>General disorders and administration site conditions</b>		
Fatigue	6	3
Feeling cold	6	2
Malaise	4	1
Asthenia	2	0
Edema peripheral	1	1
<b>Metabolism and nutrition disorders</b>		
Anorexia	5	0
<b>Musculoskeletal and connective tissue disorders</b>		
Muscle spasms	4	2
<b>Nervous system disorders</b>		
Somnolence	19	3
Dizziness	10	4
<b>Psychiatric disorders</b>		
Insomnia	10	7
Depression	1	0
<b>Skin and subcutaneous tissue disorders</b>		
Hyperhidrosis	6	1
Pruritus	3	2
Rash	2	1

Adverse reactions not reported in Table 1 that were reported by  $\geq 1\%$  of DURAGESIC-treated adult and pediatric patients (N=1854) in 11 controlled and uncontrolled clinical trials of DURAGESIC used for the treatment of chronic malignant or nonmalignant pain are shown in Table 4.

**Table 4.** Adverse Reactions Reported by  $\geq 1\%$  of DURAGESIC-treated Patients in 11 Clinical Trials of DURAGESIC

<b>System/Organ Class</b>	<b>DURAGESIC</b>
<b>Adverse Reaction</b>	<b>%</b>
<b>Gastrointestinal disorders</b>	<b>(N=1854)</b>
Diarrhea	10
Abdominal pain	3
<b>Immune system disorders</b>	
Hypersensitivity	1
<b>Nervous system disorders</b>	
Headache	12
Tremor	3
Paresthesia	2
<b>Psychiatric disorders</b>	
Anxiety	3
Confusional state	2
Hallucination	1
<b>Renal and urinary disorders</b>	
Urinary retention	1
<b>Skin and subcutaneous tissue disorders</b>	
Erythema	1

The following adverse reactions occurred in adult and pediatric patients with an overall frequency of  $<1\%$  and are listed in descending frequency within each System/Organ Class:

Cardiac disorders: cyanosis

Eye disorders: miosis

Gastrointestinal disorders: subileus

General disorders and administration site conditions: application site reaction, influenza-like illness, application site hypersensitivity, drug withdrawal syndrome, application site dermatitis

Musculoskeletal and connective tissue disorders: muscle twitching

Nervous system disorders: hypoesthesia

Psychiatric disorders: disorientation, euphoric mood

Reproductive system and breast disorders: erectile dysfunction, sexual dysfunction

Respiratory, thoracic and mediastinal disorders: respiratory depression

Skin and subcutaneous tissue disorders: eczema, dermatitis allergic, dermatitis contact

### *Pediatrics*

The safety of DURAGESIC was evaluated in three open-label trials in 289 pediatric patients with chronic pain, 2 years of age through 18 years of age. Adverse reactions reported by  $\geq 1\%$  of DURAGESIC-treated pediatric patients are shown in Table 5.

**Table 5.** Adverse Reactions Reported by  $\geq 1\%$  of DURAGESIC-treated Pediatric Patients in 3 Clinical Trials of DURAGESIC

System/Organ Class Adverse Reaction	DURAGESIC % (N=289)
<b>Gastrointestinal disorders</b>	
Vomiting	34
Nausea	24
Constipation	13
Diarrhea	13
Abdominal pain	9
Abdominal pain upper	4
Dry mouth	2
<b>General disorders and administration site conditions</b>	
Edema peripheral	5
Fatigue	2
Application site reaction	1
Asthenia	1
<b>Immune system disorders</b>	
Hypersensitivity	3
<b>Metabolism and nutrition disorders</b>	
Anorexia	4
<b>Musculoskeletal and connective tissue disorders</b>	
Muscle spasms	2
<b>Nervous system disorders</b>	
Headache	16
Somnolence	5
Dizziness	2
Tremor	2
Hypoesthesia	1
<b>Psychiatric disorders</b>	
Insomnia	6
Anxiety	4
Depression	2
Hallucination	2
<b>Renal and urinary disorders</b>	
Urinary retention	3
<b>Respiratory, thoracic and mediastinal disorders</b>	
Respiratory depression	1
<b>Skin and subcutaneous tissue disorders</b>	
Pruritus	13
Rash	6
Hyperhidrosis	3
Erythema	3

## 6.2 Post-Marketing Experience

The following adverse reactions have been identified during post-approval use of DURAGESIC. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency.

Cardiac Disorders: Tachycardia, Bradycardia

Eye Disorders: Vision blurred

Gastrointestinal Disorders: Ileus, Dyspepsia

General Disorders and Administration Site Conditions: Feeling of body temperature change

Immune System Disorders: Anaphylactic shock, Anaphylactic reaction, Anaphylactoid reaction

Investigations: Weight decreased

Nervous System Disorders: Convulsions (including Clonic convulsions and Grand mal convulsion), Amnesia

Psychiatric Disorders: Agitation

Respiratory, Thoracic, and Mediastinal Disorders: Respiratory distress, Apnea, Bradypnea, Hypoventilation, Dyspnea

Vascular Disorders: Hypotension, Hypertension

## **7 DRUG INTERACTIONS**

### **7.1 Agents Affecting Cytochrome P450 3A4 Isoenzyme System**

Fentanyl is metabolized mainly via the human cytochrome P450 3A4 isoenzyme system (CYP3A4). Coadministration with agents that induce CYP3A4 activity may reduce the efficacy of DURAGESIC. The concomitant use of DURAGESIC with a CYP3A4 inhibitor (such as ritonavir, ketoconazole, itraconazole, troleandomycin, clarithromycin, nelfanivir, nefazadone, amiodarone, amprenavir, aprepitant, diltiazem, erythromycin, fluconazole, fosamprenavir, verapamil, or grapefruit juice) may result in an increase in fentanyl plasma concentrations, which could increase or prolong adverse drug effects and may cause fatal respiratory depression. Closely monitor patients receiving DURAGESIC and any CYP3A4 inhibitor and reduce the dosage of DURAGESIC if warranted [*see Clinical Pharmacology (12.3)*].

### **7.2 Central Nervous System Depressants**

The concomitant use of DURAGESIC with other central nervous system depressants, including but not limited to other opioids, sedatives, hypnotics, tranquilizers (e.g., benzodiazepines), general anesthetics, phenothiazines, skeletal muscle relaxants, and alcohol, may cause respiratory depression, hypotension, and profound sedation, or potentially result in coma or death. Monitor patients closely when central nervous system depressants are used concomitantly with DURAGESIC and reduce the dose of one or both agents.

### **7.3 MAO Inhibitors**

Avoid use of DURAGESIC in the patient who would require the concomitant administration of a monoamine oxidase (MAO) inhibitor, or within 14 days of stopping such treatment because severe and unpredictable potentiation by MAO inhibitors has been reported with opioid analgesics.

## 8 USE IN SPECIFIC POPULATIONS

### 8.1 Pregnancy

#### *Teratogenic Effects*

*Pregnancy C:* There are no adequate and well-controlled studies in pregnant women. DURAGESIC should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

The potential effects of fentanyl on embryo-fetal development were studied in the rat, mouse, and rabbit models. Published literature reports that administration of fentanyl (0, 10, 100, or 500 µg/kg/day) to pregnant female Sprague-Dawley rats from day 7 to 21 via implanted microosmotic minipumps did not produce any evidence of teratogenicity (the high dose is approximately 2 times the daily human dose administered by a 100 mcg/hr patch on a mg/m<sup>2</sup> basis). In contrast, the intravenous administration of fentanyl (0, 0.01, or 0.03 mg/kg) to bred female rats from gestation day 6 to 18 suggested evidence of embryotoxicity and a slight increase in mean delivery time in the 0.03 mg/kg/day group. There was no clear evidence of teratogenicity noted.

Pregnant female New Zealand White rabbits were treated with fentanyl (0, 0.025, 0.1, 0.4 mg/kg) via intravenous infusion from day 6 to day 18 of pregnancy. Fentanyl produced a slight decrease in the body weight of the live fetuses at the high dose, which may be attributed to maternal toxicity. Under the conditions of the assay, there was no evidence for fentanyl induced adverse effects on embryo-fetal development at doses up to 0.4 mg/kg (approximately 3 times the daily human dose administered by a 100 mcg/hr patch on a mg/m<sup>2</sup> basis).

#### *Nonteratogenic Effects*

Chronic maternal treatment with fentanyl during pregnancy has been associated with transient respiratory depression, behavioral changes, or seizures characteristic of neonatal abstinence syndrome in newborn infants. Symptoms of neonatal respiratory or neurological depression were no more frequent than expected in most studies of infants born to women treated acutely during labor with intravenous or epidural fentanyl. Transient neonatal muscular rigidity has been observed in infants whose mothers were treated with intravenous fentanyl.

The potential effects of fentanyl on prenatal and postnatal development were examined in the rat model. Female Wistar rats were treated with 0, 0.025, 0.1, or 0.4 mg/kg/day fentanyl via intravenous infusion from day 6 of pregnancy through 3 weeks of lactation. Fentanyl treatment (0.4 mg/kg/day) significantly decreased body weight in male and female pups and also decreased survival in pups at day 4. Both the mid-dose and high-dose of fentanyl animals demonstrated alterations in some physical landmarks of development (delayed incisor eruption and eye

opening) and transient behavioral development (decreased locomotor activity at day 28 which recovered by day 50). The mid-dose and the high-dose are 0.4 and 1.6 times the daily human dose administered by a 100 mcg/hr patch on a mg/m<sup>2</sup> basis.

## **8.2 Labor and Delivery**

Fentanyl readily passes across the placenta to the fetus; therefore, DURAGESIC is not recommended for analgesia during labor and delivery.

## **8.3 Nursing Mothers**

Fentanyl is excreted in human milk; therefore, DURAGESIC is not recommended for use in nursing women because of the possibility of effects in their infants.

## **8.4 Pediatric Use**

The safety of DURAGESIC was evaluated in three open-label trials in 289 pediatric patients with chronic pain, 2 years of age through 18 years of age. Starting doses of 25 mcg/h and higher were used by 181 patients who had been on prior daily opioid doses of at least 45 mg/day of oral morphine or an equianalgesic dose of another opioid. Initiation of DURAGESIC therapy in pediatric patients taking less than 60 mg/day of oral morphine or an equianalgesic dose of another opioid has not been evaluated in controlled clinical trials.

The safety and effectiveness of DURAGESIC in children under 2 years of age have not been established.

To guard against excessive exposure to DURAGESIC by young children, advise caregivers to strictly adhere to recommended DURAGESIC application and disposal instructions [*see Dosage and Administration (2.4)(2.5) and Warnings and Precautions (5.3)*].

## **8.5 Geriatric Use**

Clinical studies of DURAGESIC did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

Data from intravenous studies with fentanyl suggest that the elderly patients may have reduced clearance and a prolonged half-life. Moreover, elderly patients may be more sensitive to the active substance than younger patients. A study conducted with the DURAGESIC patch in elderly patients demonstrated that fentanyl pharmacokinetics did not differ significantly from



young adult subjects, although peak serum concentrations tended to be lower and mean half-life values were prolonged to approximately 34 hours [see *Clinical Pharmacology* (12.3)].

Monitor geriatric patients closely for signs of sedation and respiratory depression, particularly when initiating therapy with DURAGESIC and when given in conjunction with other drugs that depress respiration [see *Warnings and Precautions* (5.2)(5.4)].

### **8.6 Hepatic Impairment**

The effect of hepatic impairment on the pharmacokinetics of DURAGESIC has not been fully evaluated. A clinical pharmacology study with DURAGESIC in patients with cirrhosis has shown that systemic fentanyl exposure increased in these patients. Because there is *in-vitro* and *in-vivo* evidence of extensive hepatic contribution to the elimination of DURAGESIC, hepatic impairment would be expected to have significant effects on the pharmacokinetics of DURAGESIC. Avoid use of DURAGESIC in patients with severe hepatic impairment [see *Dosing and Administration* (2.2), *Warnings and Precautions* (5.12) and *Clinical Pharmacology* (12.3)].

### **8.7 Renal Impairment**

The effect of renal impairment on the pharmacokinetics of DURAGESIC has not been fully evaluated. A clinical pharmacology study with intravenous fentanyl in patients undergoing kidney transplantation has shown that patients with high blood urea nitrogen level had low fentanyl clearance. Because there is *in-vivo* evidence of renal contribution to the elimination of DURAGESIC, renal impairment would be expected to have significant effects on the pharmacokinetics of DURAGESIC. Avoid the use of DURAGESIC in patients with severe renal impairment [see *Dosing and Administration* (2.2), *Warnings and Precautions* (5.13) and *Clinical Pharmacology* (12.3)].

### **8.8 Neonatal Opioid Withdrawal Syndrome**

Chronic maternal use of fentanyl can affect the neonate with subsequent withdrawal signs. Neonatal withdrawal syndrome presents as irritability, hyperactivity, and abnormal sleep pattern, high pitched cry, tremor, vomiting, diarrhea, and failure to gain weight. The onset, duration and severity of neonatal withdrawal syndrome vary based on the drug used, duration of use, the dosage of last maternal use, and rate of elimination of the drug by the newborn. Neonatal opioid withdrawal syndrome, unlike opioid withdrawal syndrome in adults, may be life-threatening and should be treated according to protocols developed by neonatology experts.

## **9 DRUG ABUSE AND DEPENDENCE**

### **9.1 Controlled Substance**

DURAGESIC contains fentanyl, a potent Schedule II opioid agonist. Schedule II opioid substances, which include hydromorphone, methadone, morphine, oxycodone, and oxymorphone, have the highest potential for abuse and risk of fatal overdose due to respiratory depression. DURAGESIC can be abused and is subject to criminal diversion [*see Warnings and Precautions (5.1)*].

### **9.2 Abuse**

Addiction is a primary, chronic, neurobiologic disease, with genetic, psychosocial, and environmental factors influencing its development and manifestations. It is characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving. Drug addiction is a treatable disease, utilizing a multidisciplinary approach, but relapse is common.

“Drug seeking” behavior is very common in addicts and drug abusers. Drug-seeking tactics include emergency calls or visits near the end of office hours, refusal to undergo appropriate examination, testing or referral, repeated “loss” of prescriptions, tampering with prescriptions and reluctance to provide prior medical records or contact information for other treating physician(s). “Doctor shopping” to obtain additional prescriptions is common among drug abusers and people suffering from untreated addiction.

Abuse and addiction are separate and distinct from physical dependence and tolerance. Physicians should be aware that addiction may be accompanied by concurrent tolerance and symptoms of physical dependence. In addition, abuse of opioids can occur in the absence of true addiction and is characterized by misuse for non-medical purposes, often in combination with other psychoactive substances. Since DURAGESIC may be diverted for non-medical use, careful recordkeeping of prescribing information, including quantity, frequency, and renewal requests is strongly advised.

Proper assessment of the patient, proper prescribing practices, periodic reevaluation of therapy, and proper dispensing and storage are appropriate measures that help to limit abuse of opioid drugs.

### **9.3 Dependence**

Tolerance is a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug’s effects over time. Tolerance may occur to both the desired and undesired effects of drugs, and may develop at different rates for different effects.

Physical dependence is a state of adaptation that is manifested by an opioid specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood concentration of the drug, and/or administration of an antagonist. The opioid abstinence or withdrawal syndrome is characterized by some or all of the following: restlessness, lacrimation, rhinorrhea, yawning, perspiration, chills, piloerection, myalgia, mydriasis, irritability, anxiety, backache, joint pain, weakness, abdominal cramps, insomnia, nausea, anorexia, vomiting, diarrhea, or increased blood pressure, respiratory rate, or heart rate. In general, opioids should not be abruptly discontinued [*see Dosage and Administration (2.3)*].

## **10 OVERDOSAGE**

### **10.1 Clinical Presentation**

Acute overdosage with opioids can be manifested by respiratory depression, somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, constricted pupils, and sometimes bradycardia, hypotension and death. The pharmacokinetic characteristics of DURAGESIC must also be taken into account when treating the overdose. Even in the face of improvement, continued medical monitoring is required because of the possibility of extended effects. Deaths due to overdose have been reported with abuse and misuse of DURAGESIC.

### **10.2 Treatment**

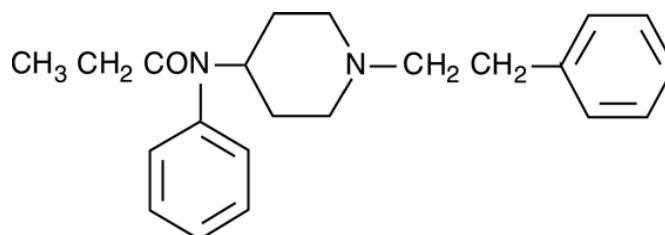
Give primary attention to the reestablishment of a patent airway and institution of assisted or controlled ventilation. Employ supportive measures (including oxygen and vasopressors) in the management of circulatory shock and pulmonary edema accompanying overdose as indicated. Cardiac arrest or arrhythmias will require advanced life support techniques. Remove all DURAGESIC systems.

The pure opioid antagonists, such as naloxone, are specific antidotes to respiratory depression from opioid overdose. Since the duration of reversal is expected to be less than the duration of action of fentanyl, carefully monitor the patient until spontaneous respiration is reliably reestablished. After DURAGESIC system removal, serum fentanyl concentrations decline gradually, falling about 50% in approximately 20-27 hours. Therefore, management of an overdose must be monitored accordingly, at least 72 to 96 hours beyond the overdose.

Only administer opioid antagonists in the presence of clinically significant respiratory or circulatory depression secondary to hydromorphone overdose. In patients who are physically dependent on any opioid agonist including DURAGESIC, an abrupt or complete reversal of opioid effects may precipitate an acute abstinence syndrome. The severity of the withdrawal syndrome produced will depend on the degree of physical dependence and the dose of the antagonist administered. Please see the prescribing information for the specific opioid antagonist for details of their proper use.

## 11 DESCRIPTION

DURAGESIC (fentanyl transdermal system) is a transdermal system containing fentanyl. The chemical name is N-Phenyl-N-(1-(2-phenylethyl)-4-piperidiny) propanamide. The structural formula is:



The molecular weight of fentanyl base is 336.5, and the empirical formula is  $C_{22}H_{28}N_2O$ . The n-octanol: water partition coefficient is 860:1. The pKa is 8.4.

### *System Components and Structure*

The amount of fentanyl released from each system per hour is proportional to the surface area (25 mcg/h per 10.5 cm<sup>2</sup>). The composition per unit area of all system sizes is identical.

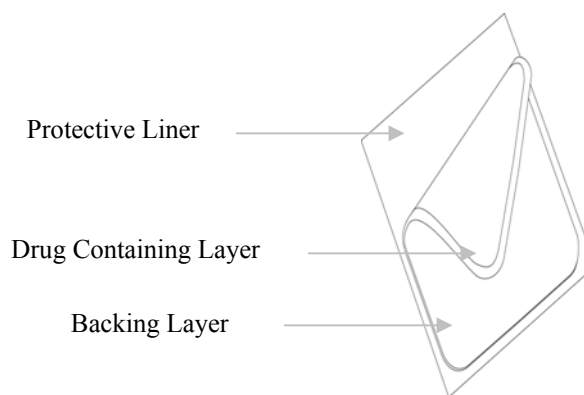
Dose* (mcg/h)	Size (cm <sup>2</sup> )	Fentanyl Content (mg)	Color of Printing on Back of Patch
12**	5.25	2.1	Orange
25	10.5	4.2	Pink
50	21	8.4	Green
75	31.5	12.6	Blue
100	42	16.8	Gray

\*Nominal delivery rate per hour

\*\*Nominal delivery rate is 12.5 mcg/hr

DURAGESIC is a rectangular transparent unit comprising a protective liner and two functional layers. Proceeding from the outer surface toward the surface adhering to skin, these layers are:

1) a backing layer of polyester/ethyl vinyl acetate film; 2) a drug-in-adhesive layer. Before use, a protective liner covering the adhesive layer is removed and discarded.



## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Fentanyl is an opioid analgesic. Fentanyl interacts predominately with the opioid mu-receptor. These mu-binding sites are distributed in the human brain, spinal cord, and other tissues.

### 12.2 Pharmacodynamics

#### *Central Nervous System Effects*

Fentanyl exerts its principal pharmacologic effects on the central nervous system. Central nervous system effects increase with increasing serum fentanyl concentrations.

In addition to analgesia, alterations in mood, euphoria, dysphoria, and drowsiness commonly occur. Fentanyl depresses the respiratory centers, depresses the cough reflex, and constricts the pupils. Analgesic blood concentrations of fentanyl may cause nausea and vomiting directly by stimulating the chemoreceptor trigger zone, but nausea and vomiting are significantly more common in ambulatory than in recumbent patients, as is postural syncope.

#### *Ventilatory Effects*

In clinical trials of 357 non-opioid tolerant subjects treated with DURAGESIC, 13 subjects experienced hypoventilation. Hypoventilation was manifested by respiratory rates of less than 8 breaths/minute or a  $p\text{CO}_2$  greater than 55 mm Hg. In these studies, the incidence of hypoventilation was higher in nontolerant women (10) than in men (3) and in subjects weighing less than 63 kg (9 of 13). Although subjects with prior impaired respiration were not common in the trials, they had higher rates of hypoventilation. In addition, post-marketing reports have been received that describe opioid-naïve post-operative patients who have experienced clinically significant hypoventilation and death with DURAGESIC.

Hypoventilation can occur throughout the therapeutic range of fentanyl serum concentrations, especially for patients who have an underlying pulmonary condition or who receive concomitant

opioids or other CNS drugs associated with hypoventilation. The use of DURAGESIC is contraindicated in patients who are not tolerant to opioid therapy.

#### *Gastrointestinal Tract and Other Smooth Muscle*

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. Because opioids may increase biliary tract pressure, some patients with biliary colic may experience worsening rather than relief of pain.

While opioids generally increase the tone of urinary tract smooth muscle, the net effect tends to be variable, in some cases producing urinary urgency, in others, difficulty in urination.

#### *Cardiovascular Effects*

Fentanyl may cause orthostatic hypotension and fainting. Fentanyl may infrequently produce bradycardia. The incidence of bradycardia in clinical trials with DURAGESIC was less than 1%.

Histamine assays and skin wheal testing in clinical studies indicate that clinically significant histamine release rarely occurs with fentanyl administration. Clinical assays show no clinically significant histamine release in dosages up to 50 mcg/kg.

### **12.3 Pharmacokinetics**

#### *Absorption*

DURAGESIC is a drug-in-adhesive matrix designed formulation. Fentanyl is released from the matrix at a nearly constant amount per unit time. The concentration gradient existing between the matrix and the lower concentration in the skin drives drug release. Fentanyl moves in the direction of the lower concentration at a rate determined by the matrix and the diffusion of fentanyl through the skin layers. While the actual rate of fentanyl delivery to the skin varies over the 72-hour application period, each system is labeled with a nominal flux which represents the average amount of drug delivered to the systemic circulation per hour across average skin.

While there is variation in dose delivered among patients, the nominal flux of the systems (12.5, 25, 50, 75, and 100 mcg of fentanyl per hour) is sufficiently accurate as to allow individual titration of dosage for a given patient.

Following DURAGESIC 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. Serum fentanyl concentrations increase gradually following initial DURAGESIC application, generally leveling off between 12 and 24 hours and remaining relatively constant,

with some fluctuation, for the remainder of the 72-hour application period. Peak serum concentrations of fentanyl generally occurred between 20 and 72 hours after initial application (see Table 6). Serum fentanyl concentrations achieved are proportional to the DURAGESIC delivery rate. With continuous use, serum fentanyl concentrations continue to rise for the first two system applications. 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 (see Figure 1). Patients reach and maintain a steady-state serum concentration that is determined by individual variation in skin permeability and body clearance of fentanyl.

After system removal, serum fentanyl concentrations decline gradually, falling about 50% in approximately 20-27 hours. Continued absorption of fentanyl from the skin accounts for a slower disappearance of the drug from the serum than is seen after an IV infusion, where the apparent half-life is approximately 7 (range 3-12) hours.

A clinical pharmacology study conducted in healthy adult subjects has shown that the application of heat over the DURAGESIC system increased mean overall fentanyl exposure by 120% and average maximum fentanyl level by 61%.

**TABLE 6: FENTANYL PHARMACOKINETIC PARAMETERS FOLLOWING FIRST 72-HOUR APPLICATION OF DURAGESIC**

	Mean (SD) Time to Maximal Concentration Tmax (h)	Mean (SD) Maximal Concentration Cmax (ng/mL)
DURAGESIC 12 mcg/h	28.8 (13.7)	0.38 (0.13)*
DURAGESIC 25 mcg/h	31.7 (16.5)	0.85 (0.26)**
DURAGESIC 50 mcg/h	32.8 (15.6)	1.72 (0.53)**
DURAGESIC 75 mcg/h	35.8 (14.1)	2.32 (0.86)**
DURAGESIC 100 mcg/h	29.9 (13.3)	3.36 (1.28)**

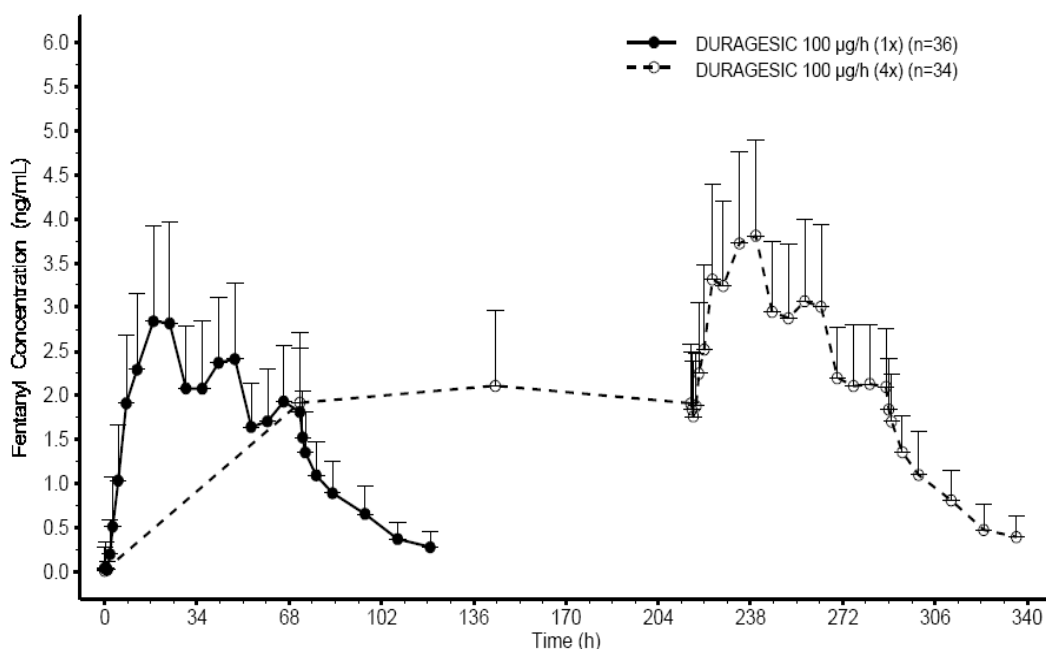
\*Cmax values dose normalized from 4 x 12.5 mcg/h: Study 2003-038 in healthy volunteers

\*\*Cmax values: Study C-2002-048 dose proportionality study in healthy volunteers

**NOTE:** After system removal there is continued systemic absorption from residual fentanyl in the skin so that serum concentrations fall 50%, on average, in approximately 20-27 hours.



**Figure 1 Serum Fentanyl Concentrations  
Following Single and Multiple Applications of DURAGESIC 100 mcg/h**



**TABLE 7: RANGE OF PHARMACOKINETIC PARAMETERS OF INTRAVENOUS FENTANYL IN PATIENTS**

	Clearance (L/h) Range [70 kg]	Volume of Distribution $V_{ss}$ (L/kg) Range	Half-Life $t_{1/2}$ (h) Range
Surgical Patients	27 – 75	3 - 8	3 - 12
Hepatically Impaired Patients	3 - 80+	0.8 - 8+	4 - 12+
Renally Impaired Patients	30 – 78	—	—

+Estimated

**NOTE:** Information on volume of distribution and half-life not available for renally impaired patients.

### *Distribution*

Fentanyl plasma protein binding capacity decreases with increasing ionization of the drug. Alterations in pH may affect its distribution between plasma and the central nervous system. Fentanyl accumulates in the skeletal muscle and fat and is released slowly into the blood. The average volume of distribution for fentanyl is 6 L/kg (range 3-8; N=8).

### *Metabolism*

Fentanyl is metabolized primarily via human cytochrome P450 3A4 isoenzyme system. In humans, the drug appears to be metabolized primarily by oxidative N-dealkylation to norfentanyl and other inactive metabolites that do not contribute materially to the observed activity of the drug.

### *Excretion*

Within 72 hours of IV fentanyl administration, approximately 75% of the dose is excreted in urine, mostly as metabolites with less than 10% representing unchanged drug. Approximately 9% of the dose is recovered in the feces, primarily as metabolites. Mean values for unbound fractions of fentanyl in plasma are estimated to be between 13 and 21%.

Skin does not appear to metabolize 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.

### *Hepatic Impairment*

Information on the effect of hepatic impairment on the pharmacokinetics of DURAGESIC is limited. The pharmacokinetics of DURAGESIC delivering 50 µg/hour of fentanyl for 72 hours was evaluated in patients hospitalized for surgery. Compared to the controlled patients (n=8), C<sub>max</sub> and AUC in the patients with cirrhosis (n=9) increased 35% and 73%, respectively.

Because there is *in-vitro* and *in-vivo* evidence of extensive hepatic contribution to the elimination of DURAGESIC, hepatic impairment would be expected to have significant effects on the pharmacokinetics of DURAGESIC. Avoid use of DURAGESIC in patients with severe hepatic impairment [see *Dosing and Administration* (2.2), *Warnings and Precautions* (5.12) and *Use in Specific Populations* (8.6)].

### *Renal Impairment*

Information on the effect of renal impairment on the pharmacokinetics of DURAGESIC is limited. The pharmacokinetics of intravenous injection of 25 µg/kg fentanyl was evaluated in patients (n=8) undergoing kidney transplantation. An inverse relationship between blood urea nitrogen level and fentanyl clearance was found.

Because there is *in-vivo* evidence of renal contribution to the elimination of DURAGESIC, renal impairment would be expected to have significant effects on the pharmacokinetics of DURAGESIC. Avoid the use of DURAGESIC in patients with severe renal impairment [see

*Dosing and Administration (2.2), Warnings and Precautions (5.13) and Use in Specific Populations (8.7)].*

#### *Pediatric Use*

In 1.5 to 5 year old, non-opioid-tolerant pediatric patients, the fentanyl plasma concentrations were approximately twice as high as that of adult patients. In older pediatric patients, the pharmacokinetic parameters were similar to that of adults. However, these findings have been taken into consideration in determining the dosing recommendations for opioid-tolerant pediatric patients (2 years of age and older). For pediatric dosing information, refer to *[see Dosing and Administration (2.2)]*.

#### *Geriatric Use*

Data from intravenous studies with fentanyl suggest that the elderly patients may have reduced clearance and a prolonged half-life. Moreover elderly patients may be more sensitive to the active substance than younger patients. A study conducted with the DURAGESIC fentanyl transdermal patch in elderly patients demonstrated that fentanyl pharmacokinetics did not differ significantly from young adult subjects, although peak serum concentrations tended to be lower and mean half-life values were prolonged to approximately 34 hours. In this study, a single DURAGESIC 100 µg/hour patch was applied to a skin site on the upper outer arm in a group of healthy elderly Caucasians  $\geq 65$  years old (n=21, mean age 71 years) and worn for 72 hours. The mean C<sub>max</sub> and AUC<sub>∞</sub> values were approximately 8% lower and 7% higher, respectively, in the elderly subjects as compared with subjects 18 to 45 years old. Inter-subject variability in AUC<sub>∞</sub> was higher in elderly subjects than in healthy adult subjects 18 to 45 years (58% and 37%, respectively). The mean half-life value was longer in subjects  $\geq 65$  years old than in subjects 18 to 45 years old (34.4 hours versus 23.5 hours) *[see Warnings and Precautions (5.4) and Use in Specific Populations (8.5)]*.

#### *Drug Interactions*

The interaction between ritonavir, a CPY3A4 inhibitor, and fentanyl was investigated in eleven healthy volunteers in a randomized crossover study. Subjects received oral ritonavir or placebo for 3 days. The ritonavir dose was 200 mg tid on Day 1 and 300 mg tid on Day 2 followed by one morning dose of 300 mg on Day 3. On Day 2, fentanyl was given as a single IV dose at 5 mcg/kg two hours after the afternoon dose of oral ritonavir or placebo. Naloxone was administered to counteract the side effects of fentanyl. The results suggested that ritonavir might decrease the clearance of fentanyl by 67%, resulting in a 174% (range 52%-420%) increase in

fentanyl  $AUC_{0-\infty}$ . Coadministration of ritonavir in patients receiving DURAGESIC has not been studied; however, an increase in fentanyl AUC is expected [see Box Warning and Warnings and Precautions (5.7) and Drug Interactions (7.1)].

Fentanyl is metabolized mainly via the human cytochrome P450 3A4 isoenzyme system (CYP3A4), therefore, potential interactions may occur when DURAGESIC is given concurrently with agents that affect CYP3A4 activity. Coadministration with agents that induce CYP3A4 activity may reduce the efficacy of DURAGESIC. The concomitant use of transdermal fentanyl with all CYP3A4 inhibitors (such as ritonavir, ketoconazole, itraconazole, troleandomycin, clarithromycin, nelfinavir, nefazadone, amiodarone, amprenavir, aprepitant, diltiazem, erythromycin, fluconazole, fosamprenavir, verapamil, or grapefruit juice) may result in an increase in fentanyl plasma concentrations, which could increase or prolong adverse drug effects and may cause potentially fatal respiratory depression. Carefully monitor patients receiving DURAGESIC and any CYP3A4 inhibitor for signs of respiratory depression for an extended period of time and adjust the dosage if warranted [see Box Warning and Warnings and Precautions (5.7)].

## 13 NON-CLINICAL TOXICOLOGY

### 13.1 Carcinogenesis, Mutagenesis, and Impairment of Fertility

#### *Carcinogenesis*

In a two-year carcinogenicity study conducted in rats, fentanyl was not associated with an increased incidence of tumors at subcutaneous doses up to 33  $\mu\text{g/kg/day}$  in males or 100  $\mu\text{g/kg/day}$  in females (0.16 and 0.39 times the human daily exposure obtained via the 100 mcg/h patch based on  $AUC_{0-24\text{h}}$  comparison).

#### *Mutagenesis*

There was no evidence of mutagenicity in the Ames Salmonella mutagenicity assay, the primary rat hepatocyte unscheduled DNA synthesis assay, the BALB/c 3T3 transformation test, and the human lymphocyte and CHO chromosomal aberration in-vitro assays.

#### *Impairment of Fertility*

The potential effects of fentanyl on male and female fertility were examined in the rat model via two separate experiments. In the male fertility study, male rats were treated with fentanyl (0, 0.025, 0.1 or 0.4 mg/kg/day) via continuous intravenous infusion for 28 days prior to mating; female rats were not treated. In the female fertility study, female rats were treated with fentanyl (0, 0.025, 0.1 or 0.4 mg/kg/day) via continuous intravenous infusion for 14 days prior to mating until day 16 of pregnancy; male rats were not treated. Analysis of fertility parameters in both studies indicated that an intravenous dose of fentanyl up to 0.4 mg/kg/day to either the male or

the female alone produced no effects on fertility (this dose is approximately 1.6 times the daily human dose administered by a 100 mcg/hr patch on a mg/m<sup>2</sup> basis). In a separate study, a single daily bolus dose of fentanyl was shown to impair fertility in rats when given in intravenous doses of 0.3 times the human dose for a period of 12 days.

## 14 CLINICAL STUDIES

DURAGESIC as therapy for pain due to cancer has been studied in 153 patients. In this patient population, DURAGESIC has been administered in doses of 25 µg/h to 600 µg/h. Individual patients have used DURAGESIC continuously for up to 866 days. At one month after initiation of DURAGESIC therapy, patients generally reported lower pain intensity scores as compared to a prestudy analgesic regimen of oral morphine.

The duration of DURAGESIC use varied in cancer patients; 56% of patients used DURAGESIC for over 30 days, 28% continued treatment for more than 4 months, and 10% used DURAGESIC for more than 1 year.

In the pediatric population, the safety of DURAGESIC has been evaluated in 289 patients with chronic pain 2-18 years of age. The duration of DURAGESIC use varied; 20% of pediatric patients were treated for ≤ 15 days; 46% for 16-30 days; 16% for 31-60 days; and 17% for at least 61 days. Twenty-five patients were treated with DURAGESIC for at least 4 months and 9 patients for more than 9 months.

## 16 HOW SUPPLIED/STORAGE AND HANDLING

DURAGESIC (fentanyl transdermal system) is supplied in cartons containing 5 individually packaged systems. See chart for information regarding individual systems.

DURAGESIC Dose (mcg/h)	System Size (cm <sup>2</sup> )	Fentanyl Content (mg)	Color of Printing on Back of Patch	NDC Number
DURAGESIC-12*	5.25	2.1	Orange	50458-090-05
DURAGESIC-25	10.5	4.2	Pink	50458-091-05
DURAGESIC-50	21	8.4	Green	50458-092-05
DURAGESIC-75	31.5	12.6	Blue	50458-093-05
DURAGESIC-100	42	16.8	Gray	50458-094-05

\*This lowest dosage is designated as 12 mcg/h (however, the actual dosage is 12.5 mcg/h) to distinguish it from a 125 mcg/h dosage that could be prescribed by using multiple patches.

Store in original unopened pouch. Store up to 25°C (77°F); excursions permitted to 15 - 30°C (59 - 86°F).

## 17 PATIENT COUNSELING INFORMATION

See FDA-approved patient labeling (Medication Guide and Instructions for Use)

Provide patients receiving DURAGESIC patches the following information:

- DURAGESIC patches contain fentanyl, an opioid pain medicine that can cause serious breathing problems and death, especially if used in the wrong way and therefore should be taken only as directed. Instruct patients to call their doctor immediately or seek emergency medical help if they experience breathing problems while taking DURAGESIC.
- DURAGESIC contains fentanyl which has a high potential for abuse. Instruct patients, family members, and caregivers to protect DURAGESIC from theft or misuse in the work or home environment.
- Instruct patients to never give DURAGESIC to anyone other than the individual for whom it was prescribed because of the risk of death or other serious medical problems to that person for whom it was not intended.
- Advise patients never to change the dose of DURAGESIC or the number of patches applied to the skin unless instructed to do so by the prescribing healthcare professional.
- Warn patients of the potential for temperature-dependent increases in fentanyl release from the patch that could result in an overdose of fentanyl. Instruct patients to contact their healthcare provider if they develop a high fever. Instruct patients to:
  - avoid strenuous exertion that can increase body temperature while wearing the patch
  - avoid exposing the DURAGESIC application site and surrounding area to direct external heat sources including heating pads, electric blankets, sunbathing, heat or tanning lamps, saunas, hot tubs or hot baths, and heated water beds.
- Keep DURAGESIC in a secure place out of the reach of children due to the high risk of **fatal respiratory depression**. DURAGESIC can be accidentally transferred to children. Instruct patients to take special precautions to avoid accidental contact when holding or caring for children.
- If the patch dislodges and accidentally sticks to the skin of another person, to immediately take the patch off, wash the exposed area with water and seek medical attention for the accidentally exposed individual as accidental exposure may lead to death or other serious medical problems.

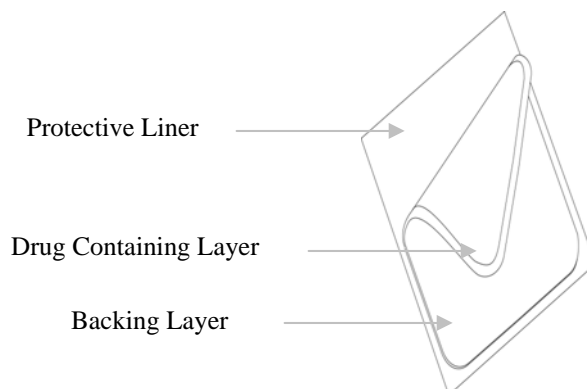
- To properly disposal of used and unneeded, unused DURAGESIC, remove them from their pouches, fold them so that the adhesive side of the patch adheres to itself, and flush them down the toilet.
- DURAGESIC may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating machinery). Instruct patients to refrain from any potentially dangerous activity when starting on DURAGESIC or when their dose is being adjusted, until it is established that they have not been adversely affected.
- Advise women of childbearing potential who become, or are planning to become pregnant, to consult a healthcare provider prior to initiating or continuing therapy with DURAGESIC.
- Instruct patients not to use alcohol or other CNS depressants (e.g. sleep medications, tranquilizers) while using DURAGESIC because dangerous additive effects may occur, resulting in serious injury or death.
- Advise patients of the potential for severe constipation.
- When no longer needed, DURAGESIC should not be stopped abruptly to avoid the risk of precipitating withdrawal symptoms.



<p>Medication Guide <b>DURAGESIC® (Dur-ah-GEE-zik)</b> <b>(fentanyl) Transdermal System, CII</b></p>	
<p><b>DURAGESIC® is:</b></p> <ul style="list-style-type: none"> <li>• A strong prescription pain medicine that contains an opioid (narcotic) that is used to treat moderate to severe around-the-clock pain, in people who are already regularly using opioid pain medicine.</li> </ul>	
<p><b>Important information about DURAGESIC®:</b></p> <ul style="list-style-type: none"> <li>• Get emergency help right away if you use too much DURAGESIC® (overdose). DURAGESIC® overdose can cause life threatening breathing problems that can lead to death.</li> <li>• Never give anyone else your DURAGESIC®. They could die from using it. Store DURAGESIC® away from children and in a safe place to prevent stealing or abuse. Selling or giving away DURAGESIC® is against the law.</li> </ul>	
<p><b>Do not use DURAGESIC® if you have:</b></p> <ul style="list-style-type: none"> <li>• severe asthma, trouble breathing, or other lung problems.</li> <li>• a bowel blockage or have narrowing of the stomach or intestines.</li> </ul>	
<p><b>Before applying DURAGESIC®, tell your healthcare provider if you have a history of:</b></p> <ul style="list-style-type: none"> <li>• head injury, seizures</li> <li>• liver, kidney, thyroid problems</li> <li>• problems urinating</li> <li>• pancreas or gallbladder problems</li> <li>• abuse of street or prescription drugs, alcohol addiction, or mental health problems.</li> </ul> <p><b>Tell your healthcare provider if you:</b></p> <ul style="list-style-type: none"> <li>• have a fever</li> <li>• <b>are pregnant or planning to become pregnant.</b> DURAGESIC® may harm your unborn baby.</li> <li>• <b>are breastfeeding.</b> DURAGESIC® passes into breast milk and may harm your baby.</li> <li>• are taking prescription or over-the-counter medicines, vitamins, or herbal supplements.</li> </ul>	
<p><b>When using DURAGESIC®:</b></p> <ul style="list-style-type: none"> <li>• Do not change your dose. Apply DURAGESIC® exactly as prescribed by your healthcare provider.</li> <li>• See the detailed Instructions for Use for information about how to apply and dispose of the DURAGESIC® patch.</li> <li>• Do not wear more than 1 patch at the same time unless your healthcare provider tells you to.</li> <li>• <b>Call your healthcare provider if the dose you are using does not control your pain.</b></li> <li>• <b>Do not stop using DURAGESIC® without talking to your healthcare provider.</b></li> </ul>	
<p><b>While using DURAGESIC® Do Not:</b></p> <ul style="list-style-type: none"> <li>• Take hot baths or sunbathe, use hot tubs, saunas, heating pads, electric blankets, heated waterbeds, or tanning lamps, or engage in exercise that increases your body temperature. These can cause an overdose that can lead to death.</li> <li>• Drive or operate heavy machinery, until you know how DURAGESIC® affects you. DURAGESIC® can make you sleepy, dizzy, or lightheaded.</li> <li>• Drink alcohol or use prescription or over-the-counter medicines that contain alcohol.</li> </ul>	
<p><b>The possible side effects of DURAGESIC® are:</b></p> <ul style="list-style-type: none"> <li>• constipation, nausea, sleepiness, vomiting, tiredness, headache, dizziness, abdominal pain, itching, redness, or rash where the patch is applied. Call your healthcare provider if you have any of these symptoms and they are severe.</li> </ul> <p><b>Get emergency medical help if you have:</b></p> <ul style="list-style-type: none"> <li>• trouble breathing, shortness of breath, fast heartbeat, chest pain, swelling of your face, tongue or throat, extreme drowsiness, or you are feeling faint.</li> </ul> <p>These are not all the possible side effects of DURAGESIC®. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088. <b>For more information go to <a href="http://dailymed.nlm.nih.gov">dailymed.nlm.nih.gov</a></b></p> <p><small>Manufactured by: Alza Corporation, Vacaville, CA 95688; Manufactured for: Janssen Pharmaceuticals, Inc. Titusville, NJ 08560, <a href="http://www.Duragesic.com">www.Duragesic.com</a> or call 1-800-526-7736</small></p>	

**DURAGESIC® (Dur-ah-GEE-zik)  
(Fentanyl Transdermal System) CII**

**Instructions for Applying a DURAGESIC® patch**



**Before Applying DURAGESIC®**

- Each DURAGESIC® patch is sealed in its own protective pouch. Do not remove a DURAGESIC® patch from the pouch until you are ready to use it.
- Do not use a DURAGESIC® patch if the pouch seal is broken or the patch is cut, damaged or changed in any way.
- DURAGESIC® patches are available in 5 different doses and patch sizes. Make sure you have the right dose patch or patches that have been prescribed for you.

## **Applying a DURAGESIC<sup>®</sup> Patch**

### **1. Skin Areas Where the DURAGESIC<sup>®</sup> Patch May Be**

#### **Applied:**

##### **For adults:**

- Put the patch on the chest, back, flank (sides of the waist), or upper arm in a place where there is no hair (see Figures 1-4).

##### **For children (and adults with mental impairment):**

- **Put the patch on the upper back (see Figure 2).** This will lower the chances that the child will remove the patch and put it in their mouth.

##### **For adults and children**

- Do not put a DURAGESIC<sup>®</sup> patch on skin that is very oily, burned, broken out, cut, irritated, or damaged in any way.
- Avoid sensitive areas or those that move around a lot. If there is hair, **do not shave (shaving irritates the skin)**. Instead, clip hair as close to the skin as possible (see Figure 5).
- **Talk to your doctor if you have questions about skin application sites.**

### **2. Prepare to Apply a DURAGESIC<sup>®</sup> Patch:**

- Choose the time of day that is best for you to apply DURAGESIC<sup>®</sup>. Change it at about the same time of day (3 days or 72 hours after you apply the patch) or as directed by your doctor.
- Do not wear more than one DURAGESIC<sup>®</sup> patch at a time unless your doctor tells you to do so. Before putting on a new DURAGESIC<sup>®</sup> patch, remove the patch you have been wearing.
- Clean the skin area with clear water **only**. **Pat skin completely dry.** Do not use anything on the skin such as soaps, lotions, oils, or alcohol before the patch is applied.

### **3. Open the Pouch:** Fold and tear at slit, or cut at slit taking

Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6

care so as not to cut the patch, and remove the DURAGESIC<sup>®</sup> patch. Each DURAGESIC<sup>®</sup> patch is sealed in its own protective pouch. Do not remove the DURAGESIC<sup>®</sup> patch from the pouch until you are ready to use it (see Figure 6).



- 4. Peel:** Peel off both parts of the protective liner from the patch. Each DURAGESIC<sup>®</sup> patch has a clear plastic backing that can be peeled off in two pieces. This covers the sticky side of the patch. Carefully peel this backing off. Throw the clear plastic backing away. **Touch the sticky side of the DURAGESIC<sup>®</sup> patch as little as possible** (see Figure 7).

Figure 7



5. **Press:** Press the patch onto the chosen skin site **with the palm of your hand and hold there for at least 30 seconds** (see Figure 8). Make sure it sticks well, especially at the edges.

Figure 8



- DURAGESIC<sup>®</sup> may not stick to all patients. You need to check the patches often to make sure that they are sticking well to the skin.
- If the patch falls off right away after applying, throw it away and put a new one on at a different skin site (see Disposing a DURAGESIC<sup>®</sup> Patch).
- If you have a problem with the patch not sticking
  - Apply first aid tape only to the edges of the patch.
  - If you continue to have problems with the patch sticking, you may cover the patch with Bioclusive<sup>™</sup> or Tegaderm<sup>™</sup>. These are special see-through adhesive dressings. **Never cover a DURAGESIC<sup>®</sup> patch with any other bandage or tape.** Remove the backing from the Bioclusive<sup>™</sup> or Tegaderm<sup>™</sup> dressing and place it carefully over the DURAGESIC<sup>®</sup> patch, smoothing it over the patch and your skin.
- **If your patch falls off later, but before 3 days (72 hours) of use, discard it properly (see Disposing a DURAGESIC<sup>®</sup> patch) and put a new one on at a different skin site. Be sure to let your doctor know that this has happened, and do not replace the new patch until 3 days (72 hours) after you put it on (or as directed by your doctor).**

6. Wash your hands when you have finished applying a

DURAGESIC<sup>®</sup> patch.

7. Remove a DURAGESIC<sup>®</sup> patch after wearing it for 3 days (72 hours) (see “Disposing a DURAGESIC<sup>®</sup> Patch”). Choose a **different** place on the skin to apply a new DURAGESIC<sup>®</sup> patch and repeat Steps 2 through 6.

**Do not apply the new patch to the same place as the last one.**

### Water and DURAGESIC<sup>®</sup>

- You can bathe, swim or shower while you are wearing a DURAGESIC<sup>®</sup> patch. If the patch falls off before 3 days (72 hours) after application, discard it properly (see Disposing a DURAGESIC<sup>®</sup> Patch) and put a new one on at a different skin site. Be sure to let your doctor know that this has happened, and do not replace the new patch until 3 days (72 hours) after you put it on (or as directed by your doctor).

### Disposing a DURAGESIC<sup>®</sup> Patch

- Fold the used DURAGESIC<sup>®</sup> patch in half so that the sticky side sticks to itself (Figure 9). **Flush the used DURAGESIC<sup>®</sup> down the toilet right away** (Figure 10). **A used DURAGESIC<sup>®</sup> patch CAN be VERY dangerous for or even lead to death in babies, children, pets, and adults who have not been prescribed DURAGESIC<sup>®</sup>.**
- Throw away any DURAGESIC<sup>®</sup> patches that are left over from your prescription as soon as they are no longer needed. Remove the leftover patches from their protective pouch and remove the protective liner. **Fold the patches in half with the sticky sides together, and flush the patches down the toilet.** Do not flush the pouch or the protective liner down the toilet. These items can be thrown away in a trashcan.

Figure 9



Figure 10



Bioclusive<sup>™</sup> is a trademark of Ethicon, Inc.

Tegaderm<sup>™</sup> is a trademark of 3M

Rx Only

**Manufactured by:**  
ALZA Corporation  
Vacaville, CA 95688

**Manufactured for:**  
Janssen Pharmaceuticals, Inc.  
Titusville, NJ 08560

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