

Characteristics of Transdermal Patches (United States)

full update November 2024

Transdermal patches offer an alternative route of administration for patients who are unable to swallow oral meds. Patches may also allow for less frequent dosing and improved adherence. Use the information below to help answer common questions about patches, including the effects of water exposure and what to do if patches fall off.

For guidance about when patches can be cut, see our checklist, *Dos and Don'ts With Patches*.

**Do NOT cut or alter drug patches (regardless of the delivery system) when exact dosing is critical (e.g., contraceptives, fentanyl, methylphenidate).*

Please note that information below includes many brand name and generic patches, yet there may be other generics patches available that are not listed. Information may be different for generic products. Products listed on the chart are representative and may not be all-inclusive.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
Asenapine (<i>Secuado</i>)	Adhesive matrix ¹²	Translucent square with rounded edges. Imprinted with drug name and strength. ¹²	<ul style="list-style-type: none"> If a patch falls off, replace with a new patch, rotating sites. 	<ul style="list-style-type: none"> Showering is permitted. Swimming or taking a bath may cause the patch to fall off.
Buprenorphine (<i>Butrans</i>) Provide a MedGuide with each Rx.	Adhesive matrix Note: <i>Do NOT cut or alter any drug patch (regardless of the delivery system) when exact dosing is critical.</i>	Beige, rectangular or square (varies with dose). Imprinted with drug name and strength.	<ul style="list-style-type: none"> May tape edges with first aid tape or cover with transparent, waterproof or semipermeable dressing (e.g., <i>Bioclusive</i> or <i>Tegaderm</i>) for up to seven days. If a patch falls off, replace with a new patch, rotating sites. <ul style="list-style-type: none"> Applying a new patch starts a new dosing interval. 	<ul style="list-style-type: none"> Water exposure during showering or bathing should not affect the patch.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
Capsaicin (<i>Qutenza</i>)	Adhesive Matrix	Rectangle imprinted with drug name and strength.	<ul style="list-style-type: none"> • May use a dressing such as rolled gauze to keep in place for the full 30- or 60-minute treatment. 	<ul style="list-style-type: none"> • Water exposure should not be an issue as patches are only applied for 30 or 60 minutes every three months.
Clonidine (<i>Catapres-TTS</i>)	Reservoir	Tan, square, imprinted with “BI-31” (0.1 mg), “BI-32” (0.2 mg), “BI-33” (0.3 mg)	<ul style="list-style-type: none"> • Use round, white adhesive cover if becomes loose. • If a patch falls off, replace with a new patch, rotating sites. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing should not affect the patch.
Dextroamphetamine (<i>Xelstrym</i>) Provide a MedGuide with each Rx.	Adhesive matrix	Translucent square imprinted with drug name and strength. ^{3,17}	<ul style="list-style-type: none"> • Do not use dressings, tapes, or other adhesives. • If a patch falls off, apply a new patch, rotating sites. <ul style="list-style-type: none"> ○ Total wear time for old patch and new patch combined should be no more than nine hours. 	<ul style="list-style-type: none"> • Check adherence after bathing, showering, or swimming.
Diclofenac (<i>Flector</i>) Provide a MedGuide with each Rx.	Adhesive matrix	Rectangle imprinted with drug name and strength.	<ul style="list-style-type: none"> • May tape edges or cover with mesh netting sleeve (e.g., <i>Curad Hold Tite, Surgilast</i>). Avoid covering with an occlusive barrier. 	<ul style="list-style-type: none"> • Patch should NOT be worn while bathing or showering.
Donepezil (<i>Adlarity</i>)	Matrix	Tan rectangle imprinted with drug name and strength	<ul style="list-style-type: none"> • If a patch falls off, replace with a new patch rotating sites. <ul style="list-style-type: none"> ○ Applying a new patch starts a new dosing interval. 	<ul style="list-style-type: none"> • Patch can be worn during showers or baths.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
Estradiol (<i>Minivelle</i>) Generics (information is the same as brand unless otherwise noted) <ul style="list-style-type: none"> • <i>Lyllana</i> • Mylan 	Adhesive matrix	Translucent, round (Mylan: white rectangle). Imprinted with drug name and strength. ^{1,7,10}	<ul style="list-style-type: none"> • If a patch falls off, the same patch may be reapplied. • If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Showering is unlikely to cause the patch to fall off.
Estradiol (<i>Vivelle-Dot</i> [brand discontinued]) Generics (information is the same as brand unless otherwise noted) <ul style="list-style-type: none"> • <i>Dotti</i> • Zydus 	Adhesive matrix	Dotti: Transparent, round, imprinted with drug name and strength ⁷ Zydus: Translucent rectangle ¹³ imprinted with drug name and strength. ¹⁹	<ul style="list-style-type: none"> • If patch falls off, the same patch may be reapplied. • If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Showering is unlikely to cause the patch to fall off.
Estradiol (<i>Climara</i>) Generics (information is the same as brand unless otherwise noted) <ul style="list-style-type: none"> • Mylan 	Adhesive matrix	Climara: Transparent oval imprinted with drug name and strength. ⁵ Mylan: Peach, round foam disc. Imprinted with drug and strength	<ul style="list-style-type: none"> • If a patch falls off, the same patch may be reapplied, rotating sites. • If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing could cause the patch to fall off.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
Estradiol (<i>Menostar</i>)	Adhesive matrix	Transparent oval imprinted with drug name. ⁵	<ul style="list-style-type: none"> • If a patch falls off, the same patch may be reapplied, rotating sites. • If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing could cause the patch to fall off.
Estradiol/ Levonorgestrel (<i>Climara Pro</i>)	Adhesive matrix	Transparent oval imprinted with drug name and strength. ⁵	<ul style="list-style-type: none"> • If a patch falls off, the same patch may be reapplied. • If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing could cause the patch to fall off.
Estradiol/ Levonorgestrel (<i>Twirla</i>)	Adhesive matrix <i>Note: Do NOT cut or alter any drug patch (regardless of the delivery system) when exact dosing is critical.</i>	Beige, round. Imprinted with drug name and strength.	<ul style="list-style-type: none"> • If patch is off for: <ul style="list-style-type: none"> ○ <1 day, apply a new patch. No back-up contraception needed. ○ >24 hours or an unknown amount of time, apply a new patch (starts a new cycle). Back-up contraception needed for one week. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing may affect how well the patch sticks.
Estradiol/ Norethindrone (<i>CombiPatch</i>)	Adhesive matrix	Clear, round. Imprinted with drug name and strength. ¹	<ul style="list-style-type: none"> • If a patch falls off, the same patch may be reapplied, rotating sites. • If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing should not affect the patch.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
<p>Estradiol/ Norelgestromin (<i>Xulane</i>)</p> <p>Generics (information is the same as brand unless otherwise noted)</p> <ul style="list-style-type: none"> • <i>Zafemy</i> 	<p>Adhesive matrix</p> <p>Note: Do NOT cut or alter any drug patch (regardless of the delivery system) when exact dosing is critical.</p>	<p>Xulane: Peach rectangle with rounded corners. Imprinted with drug name and strength</p> <p>Zafemy: Tan rectangle with rounded corners. Imprinted with drug name and strength⁷</p>	<ul style="list-style-type: none"> • Do not use tape or a wrap to secure. • If a patch falls off: <ul style="list-style-type: none"> ○ for <1 day: may reapply the same patch. No back-up contraception needed. ○ for ≥24 hours or unknown time: apply a new patch (starts a new cycle). Back-up contraception needed for one week. 	<ul style="list-style-type: none"> • Patch can be worn while bathing, showering, and swimming.⁸
<p>Fentanyl (<i>Duragesic</i> [brand discontinued])</p> <p>Provide a MedGuide with each Rx.</p> <p>Generics (information is the same as brand unless otherwise noted)</p> <ul style="list-style-type: none"> • Alvogen • Apotex • Mallinckrodt • Mylan 	<p>Adhesive matrix</p> <p>Note: Do NOT cut or alter any drug patch (regardless of the delivery system) when exact dosing is critical.</p>	<p>Translucent, tan (<i>Apotex</i>¹⁸), or opaque (<i>SpecGx</i>) rectangle imprinted with drug name and strength.</p>	<ul style="list-style-type: none"> • Use first-aid tape on the edges or cover with a transparent adhesive dressing (e.g., <i>Bioclusive</i>, <i>Tegaderm</i>, <i>Askina</i>) if patch becomes loose. • If a patch falls off, apply a new patch, rotating sites. <ul style="list-style-type: none"> ○ Applying a new patch starts a new dosing interval. 	<ul style="list-style-type: none"> • Patch can be worn while bathing, showering, and swimming.
<p>Lidocaine 1.8% (<i>ZTlido</i>)</p>	<p>Adhesive matrix</p>	<p>Rectangle imprinted with drug name and strength</p>	<ul style="list-style-type: none"> • If a patch falls off, apply a new patch (duration of use should not exceed a total of 12 hours [cumulative time of used and new patch]) 	<ul style="list-style-type: none"> • May be exposed to water, such as showering for 10 minutes or immersion for 15 minutes.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
Lidocaine 5% (Lidoderm [Rx]) Generics (information is the same as brand unless otherwise noted) <ul style="list-style-type: none"> Actavis Mylan Yaral 	Adhesive matrix	White or tan (Mylan) rectangle imprinted with drug name and strength (Yaral patch has no imprint). ^{3,10,21}	<ul style="list-style-type: none"> Can use medical tape to secure patch.²⁰ 	<ul style="list-style-type: none"> Patch should not get wet. Do NOT wear while bathing, swimming or showering.
Methylphenidate (Daytrana) Generics (information is the same as brand unless otherwise noted) <ul style="list-style-type: none"> Mylan 	Adhesive matrix <i>Note: Do NOT cut or alter any drug patch (regardless of the delivery system) when exact dosing is critical.</i>	Daytrana: Square. Imprinted with drug name. ³ Mylan: Translucent rectangle imprinted with drug name and strength. ³	<ul style="list-style-type: none"> Do not use dressings, tapes, or other adhesives. If a patch falls off, apply a new patch, rotating sites. <ul style="list-style-type: none"> Total wear time for old patch and new patch combined should be no more than nine hours. 	<ul style="list-style-type: none"> Water exposure during showering, swimming, or bathing may affect how well the patch sticks.
Nicotine (Habitrol)	Matrix ⁹	Round, tan. Imprint with drug name, strength, and product code. ^{3,15}	<ul style="list-style-type: none"> Apply a new one and remove it when the original patch would have been removed.¹⁴ 	<ul style="list-style-type: none"> Can be worn while bathing, showering, or swimming.¹⁴
Nicotine (NicoDerm CQ)	Reservior ¹¹	Transparent square imprinted in white ink with product name and strength. ^{3,21}	<ul style="list-style-type: none"> May use medical or sports tape placed as an “x” over the patch.⁴ 	<ul style="list-style-type: none"> May be exposed to water (bathing, showering, swimming) for short periods of time.⁴

Medication (brand name)	Delivery system^a	Appearance^a	Recommendation if a patch becomes loose or falls off^a	Exposure to water^a
Nitroglycerin (generics) • Mylan	Adhesive matrix	Mylan: Translucent, oblong. Imprinted with drug name and strength.	<ul style="list-style-type: none"> • If a patch falls off, apply a new patch, rotating sites. 	<ul style="list-style-type: none"> • Water exposure during showering or bathing should not affect the patch.
Nitroglycerin (<i>Nitro-Dur</i>)	Adhesive matrix	Beige, round. ³	<ul style="list-style-type: none"> • No information available about how to address patches that become loose or come off. 	<ul style="list-style-type: none"> • Patients can shower while wearing their <i>Nitro-Dur</i> patch.
Oxybutynin (<i>Oxytrol</i> [Rx]/ <i>Oxytrol for Women</i> [OTC])	Adhesive matrix	Rectangle imprinted with drug name and strength. ³	<ul style="list-style-type: none"> • If a patch falls off, reapply. If unable to reapply, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Water exposure during showering, swimming, or bathing should not affect the patch.
Rivastigmine (<i>Exelon</i>)	Adhesive matrix	Beige, round, imprinted with drug name	<ul style="list-style-type: none"> • Do not use tape, bandages, or overlays. • If a patch falls off, apply a new patch, rotating sites,⁶ and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Check adherence after bathing, showering, or swimming.
Rotigotine (<i>Neupro</i>)	Adhesive matrix	Tan, square, imprinted with drug name and strength ^{3,16}	<ul style="list-style-type: none"> • May use bandage tape to secure edges. • If a patch falls off, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Bathing, swimming, or showering is permitted, but may loosen the patch.

Medication (brand name)	Delivery system ^a	Appearance ^a	Recommendation if a patch becomes loose or falls off ^a	Exposure to water ^a
Scopolamine (<i>Transderm Scop</i>) Generics (information is the same as brand unless otherwise noted) <ul style="list-style-type: none"> • Actavis/Teva • Ingenus • Mylan • Padagis • Zydus 	Reservoir (<i>Transderm Scop</i> , Mylan, Padagis, Zydus) Adhesive matrix (Actavis, Ingenus)	Tan/peach round. ³ Imprinted with drug name and strength.	<ul style="list-style-type: none"> • If a patch falls off, apply a new patch behind the other ear. 	<ul style="list-style-type: none"> • Limit contact with water (e.g., bathing, swimming); this may cause patch to fall off.
Selegiline (<i>Emsam</i>) Provide a MedGuide with each Rx.	Adhesive matrix	Translucent square imprinted with drug name and strength. ^{2,3}	<ul style="list-style-type: none"> • If a patch becomes loose, press it back in place. • If a patch falls off, apply a new patch, rotating sites, and stay on original dosing schedule. 	<ul style="list-style-type: none"> • Can be worn while bathing or showering. If the sticky surface of the patch becomes wet, discard it and apply a new patch.² • No information is available about the effects of swimming on the patch.²

- a. **Information from US product labeling unless otherwise specified:** *Secuado* (December 2023); *Butrans* (December 2023); *Qutenza* (July 2024); *Catapres-TTS* (March 2023); *Flector* (April 2021); *Adlarity* (March 2022); *Minivelle* (February 2024); *Lyllana* (May 2024); estradiol transdermal system twice weekly (Mylan, July 2024); *Dotti* (May 2024); estradiol transdermal system twice weekly (Zydus, March 2024); *Climara* (December 2023); estradiol transdermal system once weekly (Mylan, June 2024); *Menostar* (December 2023); *Climara Pro* (December 2023); *Twirla* (December 2023); *CombiPatch* (February 2024); *Xulane* (March 2022); *Zafemy* (April 2022); fentanyl patch (Alvogen, May 2023); fentanyl patch (Apotex, May 2023); fentanyl patch (SpecGx [Mallinckrodt], May 2024); fentanyl patch (Mylan, October 2024); *ZTlido* (April 2021); *Lidoderm* (November 2022); lidocaine patch 5% (Actavis, April 2022); lidocaine patch 5% (Mylan, November 2018); lidocaine patch 5% (Yaral, December 2022); *Daytrana* (April 2024); methylphenidate patch (Mylan, January 2024); nitroglycerin patch (Mylan, November 2014); *Nitro-Dur* (September 2017); *Oxytrol* (May 2024); *Oxytrol for Women* (August 2024); *Exelon* (May 2024); *Neupro* (July 2021); *Transderm Scop* (March 2024); scopolamine system (Actavis June 2024); scopolamine patch, extended release (Ingenus August 2023); scopolamine patch (Mylan, September 2024); scopolamine transdermal system (Padagis, March 2024); scopolamine patch, extended release (Zydus, September 2024); *Emsam* (May 2020).

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References

1. Personal communication (verbal): Katie. Medical Information. Noven Pharmaceuticals. Miami, FL 33186. October 31, 2024.
2. Personal communication (written): Ramon. Medical Information. Viatris Canonsburg, PA15317. October 31, 2024.
3. Clinical Pharmacology powered by ClinicalKey. Tampa (FL): Elsevier. 2024. <http://www.clinicalkey.com>. (Accessed October 28, 2024).
4. NicoDerm CQ. Frequently asked questions. <https://www.nicodermcq.com/faq.html>. (Accessed October 29, 2024).
5. Personal communication (verbal): Jamie. Medical Information. Bayer HealthCare Pharmaceuticals. Whippany, NJ 07981. November 1, 2024.
6. Afanasjeva J, Gabay M, Poznanski T, Kerns S. Transdermal Patch Administration and Magnetic Resonance Imaging (MRI)-2020. *Hosp Pharm*. 2022 Feb;57(1):117-120.
7. Amneal. US product catalog. <https://amneal.quickbase.com/db/bqf4m6ppd?a=dbpage&pageID=7>. (Accessed October 28, 2024).
8. Saginaw County Health Department. Xulane Transdermal Patch Fact Sheet. August 2023. <https://saginawpublichealth.org/media/tgvaa3sh/pdf-xulane-patch-fact-sheet-8-2023.pdf>
9. Haubrich K. Patch pitfalls: administration errors with transdermal drug delivery. 2015. <https://med-fom-pediatrics.sites.olt.ubc.ca/files/2015/08/CW-Pharmacy-Informer-Summer-2015.pdf>. (Accessed November 5, 2024).
10. Viatris. US product catalog. <https://www.viatris.com/en-us/lm/countryhome/us-products/productcatalog>. (Accessed October 28, 2024).
11. What is Nicoderm CQ. <https://www.nicorette.com/usage-science/nicoderm-cq/how-nicoderm-cq-works>. (Accessed October 29, 2024).
12. Personal communication (verbal). Candace. Product information Noven Pharmaceuticals. Miami, FL 33186. October 28, 2024).
13. Zydus Pharmaceuticals. US product catalog. <https://zydususa.com/generic-products/>. (Accessed October 28, 2024).
14. Habitrol. FAQs. <https://habitrol.com/faq/>. (Accessed October 30, 2024).
15. How to apply the Habitrol nicotine patch. <https://www.youtube.com/watch?v=QP6lwEWH56g>. (Accessed October 30, 2024).
16. Science Photo Library. <https://www.sciencephoto.com/media/477249/view/noneupro-skin-patch>. (Accessed October 30, 2024).
17. Xelstrym. <https://www.xelstrym.com/>. (Accessed October 30, 2024).
18. Apotex product catalog. <https://www.apotex.com/products/us/detail.asp?m=64271>. (Accessed October 30, 2024).
19. Personal communication (written). Medical Affairs. Zydus Pharmaceuticals USA. Pennington, NJ 08534.
20. Durand C, Alhammad A, Willett KC. Practical considerations for optimal transdermal drug delivery. *Am J Health Syst Pharm*. 2012 Jan 15;69(2):116-24. Erratum in: *Am J Health Syst Pharm*. 2012 Feb 1;69(3):182.
21. Personal communication (written). Stanislava. Consumer relations. Haleon USA. Surry, UK KT13 0NY. November 8, 2024.
22. Personal communication (written). Tammy. Medical Information. Yaral Pharma. Parsippany, NJ 07054. November 8, 2024.

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Dos and Don'ts With Patches

Updated November 2024

For specifics on patch appearance, delivery system, and adherence management, see our chart, *Characteristics of Transdermal Patches* ([US subscribers](#); [Canadian subscribers](#)).

Application

- Wash hands before AND after applying patches.^{1,8}
- Remove the old patch BEFORE applying a new one.¹⁰
- Open packaging carefully (without scissors if possible) to avoid accidentally cutting the patch.⁸
- Avoid touching the sticky side of the patch.⁸
- Check product labeling for recommended **areas to use** and **areas to avoid**.¹
- Apply patches to clean, dry, hairless, nonirritated, intact skin.^{1,8} Avoid areas where tight clothing can loosen or rub the patch off (e.g., waistline).⁸
- The patch cover, if supplied, goes on over the patch (e.g., clonidine [US only]).¹⁰
- For patients with altered mental status, consider applying patches where self-removal is difficult (e.g., upper back).¹¹

Safety

- Avoid heat sources (e.g., electric blankets, heating pads, hot tubs, saunas, heated water beds). This can increase drug delivery and cause toxicity.¹
- Remove patches **before MRI** unless safety is documented; patch metal content may not be obvious, or unknown even to the manufacturer.^{4,5}
- Keep patches out of reach of kids and pets—even used patches.
- Fold patches in half (sticky sides together) to prepare for disposal.
- Ask about patches during medication reconciliation.^a

Skin Irritation

- Encourage application site rotation to avoid repeated exposure to the same area.¹
- Consider recommending a topical corticosteroid to help reduce irritation associated with transdermal patches (e.g., hydrocortisone 1% cream).¹

Disposal

- In Canada (in the US, if possible), recommend authorized collection or disposal sites (e.g., drug take-back programs, pharmacies).^{2,3,7}
- In the US, most patches can be thrown in the trash. Some patches should be flushed down the toilet (e.g., controlled substances).^{6,b}

Cutting Patches

- Most manufacturers do NOT recommend cutting patches.⁹ A few patches may be approved to be cut (e.g., *Qutenza* [US], *Lidoderm* [US]).⁹
- If exact dosing is critical (e.g., buprenorphine, contraceptives, fentanyl, methylphenidate), cutting the patch is not advised.⁹
- Never cut **reservoir-based patches** due to potential for “dose dumping.”^{1,9}
- Some **matrix-based patches** may be able to be cut to deliver a lower dose, in theory.⁹

Abbreviations

 EHR = electronic health record; MRI = magnetic resonance imaging.

a. Medication reconciliation considerations:

- During medication histories, ask specifically if the patient wears a patch.¹⁰ Clarify patch **strength**, **when** and **where** any currently applied patch was placed, and **application frequency** (how often patches are changed and any patch-free periods [e.g., nitroglycerin]).¹⁰
- If the timing of the patch application is not clear, consider replacing the patch with a new one, rotating sites.¹⁰

b. FDA flushing guidance: <https://www.fda.gov/drugs/disposal-unused-medicines-what-you-should-know/drug-disposal-fdas-flush-list-certain-medicines#FlushList>).

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References

1. Ball AM, Smith KM. Optimizing transdermal drug therapy. *Am J Health Syst Pharm*. 2008 Jul 15;65(14):1337-46.
2. Drug Enforcement Agency. DEA national Rx take-back. <https://www.dea.gov/takebackday> (Accessed November 5, 2024).
3. Government of Canada. Safe disposal of prescription drugs. <https://www.canada.ca/en/health-canada/services/safe-disposal-prescription-drugs.html>. (Accessed November 5, 2024).
4. Afanasjeva J, Gabay M, Poznanski T, Kerns S. Transdermal Patch Administration and Magnetic Resonance Imaging (MRI)-2020. *Hosp Pharm*. 2022 Feb;57(1):117-120.
5. Kuehn BM. FDA warning: remove drug patches before MRI to prevent burns to skin. *JAMA*. 2009 Apr 1;301(13):1328.
6. FDA. Drug disposal: FDA's flush list for certain medicines. October 31, 2024. <https://www.fda.gov/drugs/disposal-unused-medicines-what-you-should-know/drug-disposal-fdas-flush-list-certain-medicines#FlushList>. (Accessed November 5, 2024).
7. FDA. Disposal of unused medicines: what you should know. October 31, 2024. <https://www.fda.gov/drugs/safe-disposal-medicines/disposal-unused-medicines-what-you-should-know>. (Accessed November 5, 2024).
8. American Society of Health-System Pharmacists. Safe medication: how to use transdermal patches. <https://www.safemedication.com/how-to-use-medication/transdermal-patches>. (Accessed November 5, 2024).
9. Durand C, Alhammad A, Willett KC. Practical considerations for optimal transdermal drug delivery. *Am J Health Syst Pharm*. 2012 Jan 15;69(2):116-24. Erratum in: *Am J Health Syst Pharm*. 2012 Feb 1;69(3):182.
10. ISMP. Analysis of transdermal medication patch errors uncovers a "patchwork" of safety challenges. March 11, 2021. <https://home.ecri.org>. (Accessed November 5, 2024).
11. Health Quality & Safety Commission New Zealand. Alert 15: transdermal patches. Updated September 2019. <https://www.hqsc.govt.nz/assets/Our-work/System-safety/Reducing-harm/Medicines/Publications-resources/Transdermal-patch-alert-individual-September-2019.pdf>. (Accessed November 5, 2024).

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