

Table 1. Selected Variables Affecting pMDI Performance

Product (n) ^a	Active Agent	Formulation	Priming	Manufacturer Exhaling Instruction	Wait Time Between Doses	Cleaning ^b	End-of-Life Number of Doses ^c
ProAir HFA (8) ^d	Albuterol sulfate	pMDI suspension	Initial or >14 days: 3×	As much as possible	1 min	30 s/warm water/weekly	200 dc (±)
Proventil HFA (4) ^d	Albuterol sulfate	pMDI suspension	Initial or >14 days: 4×	As much as possible	1 min	30 s/warm water/weekly	200
Ventolin HFA (14) ^d	Albuterol sulfate	pMDI suspension	Initial, dropped, or >14 days: 4×	As much as you can	1 min	30 s/warm water/weekly	60/200 dc (+)
Albuterol [Rebel, Armstrong]	Albuterol	pMDI suspension	Test spray initially and after a prolonged period: 1×	As much as possible	1 min	30 s/warm water/daily	200
Albuterol [Warrick]	Albuterol	pMDI suspension	Initial: 4×; ≥4 days: 2×	As much as possible	1 min	30 s/warm water/daily	80/200
Xopenex HFA (2)	Levalbuterol tartrate	pMDI suspension	Initial or >3 days: 4×	As much as you can	1 min	30 s/warm water/weekly	80/200
Qvar (5)	Beclomethasone dipropionate	pMDI solution	Initial or >10 days: 2×	As fully as is comfortable	No delay	Dry cloth/weekly	50/100/120 dc (±)
Alvesco (2)	Ciclesonide	pMDI solution	Initial or >10 days: 3×	As fully as is comfortable	No delay	Dry cloth/weekly	60 dc (+)
Aerospan (2)	Flunisolide	pMDI solution	Initial or >14 days: 2×	Breathe out normally	20 s	No cleaning required	60/120
Flovent (4)	Fluticasone propionate	pMDI suspension	Initial, dropped, or > 7 days: 1×	As much as you can	30 s	Damp tissue weekly + swab atomizer	120 dc (+)
Asmanex HFA (1)	Mometasone furoate	pMDI suspension	Initial or >5 days: 4×	As fully as is comfortable	30 s	Dry cloth/weekly	120 dc (+)
Advair HFA (1)	Fluticasone propionate/salmeterol xinafoate	pMDI suspension	Initial: 4×; dropped or >28 days: 2×	As much as you can	30 s	Damp tissue weekly + swab atomizer	60/120 dc (+)
Dulera (1)	Mometasone furoate/formoterol fumarate	pMDI suspension	Initial or >5 days: 4×	As fully as is comfortable	30 s	Dry cloth/weekly	60/120 dc (+)
Symbicort (1)	Budesonide/formoterol fumarate	pMDI solution and suspension	Initial, dropped, or >7 days: 2×	Breathe out fully	No delay	Dry cloth/weekly	60/120 dc (+)

^a(n) indicates the number of products identified. ^bCleaning schedules reported as duration in s/recommended conditions/frequency. ^cThe abbreviation "dc" signifies that some (±) or all (+) actuators supplied with the product have a dose counter. ^d The package insert identifies this brand-name formulation as the delivered medication.

HFA: hydrofluoroalkane; min: minute; pMDI: pressurized metered-dose inhaler; s: seconds.

Source: Reference 14.