

# Outpatient Acetylsalicylic Acid (ASA) Desensitization

## Site Applicability

St. Paul's Hospital ENT Clinic

## Practice Level

RN: Basic Skill

## Requirements

- The physician must be present and assess the patient prior to each dose of acetylsalicylic acid (ASA).
- An RT must be available to perform serial spirometry prior to each dose.

## Need to Know

- ASA desensitization is an effective and safe treatment for nasal polyps and asthma in patients with Aspirin Exacerbated Respiratory Disease (AERD). Patients with AERD can have significant nasal polyp reduction with ASA therapy, and avoid surgery.
- Patients may be prescribed one of three desensitization protocols: Low Risk Protocol, High Risk Protocol, or Continuation Protocol.
- The Hypersensitivity/Anaphylaxis module must be ordered in Cerner by the provider.
- Patients will need to take montelukast 10 mg PO daily for 14 days prior to the desensitization procedure.
- The physician identifies candidates for this procedure who meet the following criteria: have a diagnosis of asthma under good control, have a FEV1 of more than 70% within the last year, and have no history of GI bleed or severe kidney disease

## Equipment and Supplies

- ASA 80 mg chewable tablets
- Oxygen, nasal prongs, simple face mask
- Sodium Chloride 9% (Normal Saline) IV fluid, IV tubing
- Aerochamber (two)
- Blood pressure monitor and cuff
- IV cannulas and supplies for initiating peripheral IV
- Emergency management medications including:
  - salbutamol MDI

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- ipratropium MDI
- predniSONE oral
- xylometazoline nasal spray
- loratadine oral
- hydrocortisone IV

## Procedure

### Procedure

#### Booking

- Only book 1 patient for desensitization per clinic.
- A prescription for montelukast will be provided by Dr. Ruiz's office 2 weeks prior to the patient coming in for the patient to begin prior to the desensitization procedure.

### Assessment

- Vital signs prior to each dose, every 90 minutes, before each subsequent dose, PRN and prior to discharge.
- Total Nasal Symptom Score (TNSS) prior to each dose ([Appendix A](#))
- Ongoing assessment for any symptoms of an adverse or allergic reaction
- Spirometry by RT prior to first dose, 15 to 30 minutes prior to subsequent doses, and prior to discharge

### Interventions

- Administer serial doses of ASA and monitor the patient as ordered.
  - Patients undergoing the Low Risk Protocol will take two doses of ASA, first 40 mg, then 80 mg.
  - Patients undergoing the High Risk Protocol will take three doses of ASA, first 20 mg, then 40 mg, then 80 mg.
  - Patients must return for a second day for the Continuation Protocol, and will take 160 mg, then 325 mg.
- MD to assess patient prior to each dose of the ASA.
- If the patient develops cough, chest tightness, wheezes or SpO<sub>2</sub> less than 90% on room air, administer medications per the adverse reaction protocol for these symptoms and notify the MD.
- If the patient develops nasal congestion, eye pruritis, sneezing fits, administer medications per the adverse reaction protocol for these symptoms and notify MD.
- MD to assess and discharge the patient 120 minutes after final dose of the protocol is administered.

- The patient will be provided with discharge instructions by the MD prior to leaving the clinic.

### Documentation

- Document in Powerchart in CST-Cerner:
  - Vital signs assessments in iView in Powerchart in CST-Cerner.
  - The TNSS in a Nursing Narrative Note Title this note TNSS
  - Medication administration on the eMAR.
  - Any adverse reaction and action taken in a Nursing Narrative Note.

### Patient and Family Education

Provide patient and family with information and answer questions as needed

- Desensitization is a procedure in which the patient receives small and increasing doses of ASA with the goal of reaching a target dose that will be effective in treating their nasal polyps, while under close observation by a care team, including MD.
- Prior to beginning the procedure in the clinic, patients will need to take 14 days of montelukast. Montelukast is an asthma medication which will help prevent severe reactions during the desensitization.
- Patients can expect to spend approximately 8 hours in the clinic. They will receive increasing doses of ASA every 90 minutes. Prior to each dose increase the patient will do a bedside breathing assessment (spirometry) to ensure it is safe to proceed. Most patients will have mild symptoms. During the procedure the patient will be monitored for symptoms such as watery eyes, nasal congestion, and cough. Rarely will patients have more significant symptoms such as wheeze, hypoxia, or hypotension. The team is trained to treat any adverse reactions should they occur.
- ASA desensitization requires extra staff; thus, it is very important that patients do not cancel their appointment at the last minute. Patients must give the clinic at least 1 week notice prior to cancelling an appointment.
- Patients must continue to take ASA daily after the procedure as their ongoing treatment of their polyps. If more than 2 days are missed, the desensitization would need to start again.
- Risks of ASA include adverse effects such as GI bleeding, acute kidney injury. ASA toxicity may occur at high blood levels of ASA, symptoms of which can include tinnitus, confusion, diarrhea, GI upset, headache, light-headedness and thirst.

### Related Documents

1. [BD-00-12-50091](#) - Anaphylaxis: Initial Emergency Management (Adult and Pediatric)

## References

1. Boyer, E.W. Weibrecht, K.W. (2021). Salicylate (aspirin) poisoning in adults. In: UpToDate, Traub, S. (Ed), UpToDate, Waltham, MA, 2011. Accessed February 3, 2022 at <https://www.uptodate.com>.
2. Brigham and Women's Hospital. *Aspirin exacerbated respiratory disease; Aspirin desensitization*. Accessed October 25, 2021 at <https://aerd.partners.org/aspirin-desensitization/>
3. DeGregorio, G. A., Singer, J., Cahill, K. N., & Laidlaw, T. (2019). A 1-Day, 90-minute ssiprin challenge and desensitization pProtocol in aspirin-exacerbated respiratory disease. *Journal of Allergy and Clinical Immunology: In Practice*, 7(4), 1174–1180. <https://doi.org/10.1016/j.jaip.2018.10.032>
4. Schuler, C. F., Baldwin, J. L., & Baptist, A. P. (2017). Frequency and severity of reactions to a 325-mg aspirin dose during desensitization. *Annals of Allergy, Asthma and Immunology*, 118(3), 333-338.e1. <https://doi.org/10.1016/j.anai.2016.11.021>
5. Waldram, J., Walters, K., Simon, R., Woessner, K., Waalen, J., & White, A. (2018). Safety and outcomes of aspirin desensitization for aspirin-exacerbated respiratory disease: A single-center study. *Journal of Allergy and Clinical Immunology*, 141(1), 250–256. <https://doi.org/10.1016/j.jaci.2017.05.006>
6. White, A. A., & Stevenson, D. D. (2019). Aspirin desensitization: faster protocols for busy patients. In *Journal of Allergy and Clinical Immunology: In Practice* American Academy of Allergy, Asthma and Immunology. Vol. 7, Issue 4, pp. 1181–1183. <https://doi.org/10.1016/j.jaip.2018.10.019>

## Appendices

- [Appendix A: Total Nasal Symptom Score](#)

## Appendix A: Total Nasal Symptom Score



### TOTAL NASAL SYMPTOM SCORE

**PLEASE ANSWER ALL QUESTIONS TO THE BEST OF YOUR ABILITY.** This information will assist us in understanding and treating your symptoms.

1. Please rate how your <b>nasal congestion</b> has been over the past:	12 hours	Last 2 weeks
None	0 <input type="radio"/>	0 <input type="radio"/>
Mild (symptom clearly present but easily tolerated)	1 <input type="radio"/>	1 <input type="radio"/>
Moderate (symptom bothersome but tolerable)	2 <input type="radio"/>	2 <input type="radio"/>
Severe (symptom difficult to tolerate - interferes with activities)	3 <input type="radio"/>	3 <input type="radio"/>

2. Please rate how your <b>runny nose</b> has been over the past:	12 hours	Last 2 weeks
None	0 <input type="radio"/>	0 <input type="radio"/>
Mild (symptom clearly present but easily tolerated)	1 <input type="radio"/>	1 <input type="radio"/>
Moderate (symptom bothersome but tolerable)	2 <input type="radio"/>	2 <input type="radio"/>
Severe (symptom difficult to tolerate - interferes with activities)	3 <input type="radio"/>	3 <input type="radio"/>

3. Please rate how your <b>nasal itching</b> has been over the past:	12 hours	Last 2 weeks
None	0 <input type="radio"/>	0 <input type="radio"/>
Mild (symptom clearly present but easily tolerated)	1 <input type="radio"/>	1 <input type="radio"/>
Moderate (symptom bothersome but tolerable)	2 <input type="radio"/>	2 <input type="radio"/>
Severe (symptom difficult to tolerate - interferes with activities)	3 <input type="radio"/>	3 <input type="radio"/>

4. Please rate how your <b>sneezing</b> has been over the past:	12 hours	Last 2 weeks
None	0 <input type="radio"/>	0 <input type="radio"/>
Mild (symptom clearly present but easily tolerated)	1 <input type="radio"/>	1 <input type="radio"/>
Moderate (symptom bothersome but tolerable)	2 <input type="radio"/>	2 <input type="radio"/>
Severe (symptom difficult to tolerate - interferes with activities)	3 <input type="radio"/>	3 <input type="radio"/>

5. Please rate how <b>difficult sleep</b> has been with nasal symptoms:	Last night	Last 2 weeks
None	0 <input type="radio"/>	0 <input type="radio"/>
Mild (symptom clearly present but easily tolerated)	1 <input type="radio"/>	1 <input type="radio"/>
Moderate (symptom bothersome but tolerable)	2 <input type="radio"/>	2 <input type="radio"/>
Severe (symptom difficult to tolerate - interferes with activities)	3 <input type="radio"/>	3 <input type="radio"/>

TOTAL SCORE: 0 / 0

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