

Adverse Drug Event API and URL Constructor Overview

<https://www.pharmacyinformatics.net/pharmacy-informatics-api-search-adverse-drug-events>

Searchbars

- Type characters and wait a moment for the API to query the matching text
- The exact way the terms are in openFDA will display
- The search and count is based on the date range (so it is not a complete query of the database due to limitations from the FDA)

Generic Drug Name List:

ENOXAPARIN SODIUM	(52388)
-------------------	---------

ADE API Constructor Basics

- The tool is intended to show a graphical display of the query
- Use “include in search” buttons to filter your search
- Use the “count by” to sum the results by that criteria

Received Date: to

Generic Drug Name List:

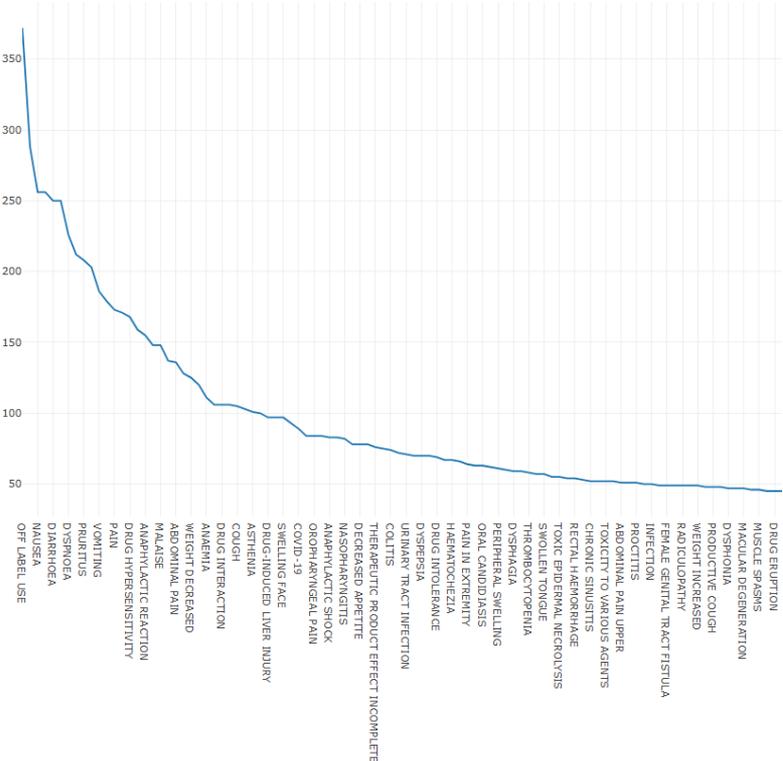
Patient Reaction List:

Constructed Adverse Drug Event URL

```
https://api.fda.gov/drug/event.json?search=(receivedate:[2024-01-01+TO+2025-01-01])+AND+patient.drug.openfda.generic_name.exact:(\"AMOXICILLIN\")&count=patient.reaction.reactionmeddrapt.exact
```

Search Results

Open FDA Drug Adverse Event API



Adverse Drug Events Query Parameters

- `https://api.fda.gov/drug/event.json?search=(receiveddate:[2004-01-01+TO+2025-02-16])+AND+patient.drug.openfda.generic_name.exact:(\"ENOXAPARIN SODIUM\"+OR+\"DALTEPARIN SODIUM\")+AND+serious:1&count=patient.reaction.reactionmeddrapt.exact&limit=100`
- API endpoint
 - `https://api.fda.gov/drug/event.json?`
- Query parameters: When your web browser sends a request to the openFDA API for drug events, the URL is parsed by the parameters presented to the server
 - Search: the logic that is used to filter the query by using various fields and logical operators. In the above example the field received date for a date range, generic drug field for enoxaprin sodium and dalteparin sodium, and serious field with a value of 1 (most serious). Notice how the logical operands AND and OR are used in the example query above.
 - Count: This parameter groups by the field indicated and sums up the count for each field
 - Limit: 100 by default, and can be either smaller or up to 1000. Received date does not appear to be limited
 - More: There are more a few [more](#), but this published tool does not apply them (yet)

See Detailed Adverse Event Report

- The count of safety report IDs will present examples within the filter specified
- Click on any of the hyperlinks for details

▼ Unique Safety Report ID:

Count by

Count of Safety Report IDs Provided: 100

[ID Report: 5269435-1](#) Count: 2

[ID Report: 10003468](#) Count: 1

[ID Report: 10006027](#) Count: 1

[ID Report: 10008722](#) Count: 1

[ID Report: 5492009-4](#) Count: 2

[ID Report: 10003526](#) Count: 1

[ID Report: 10006589](#) Count: 1

[ID Report: 10008873](#) Count: 1

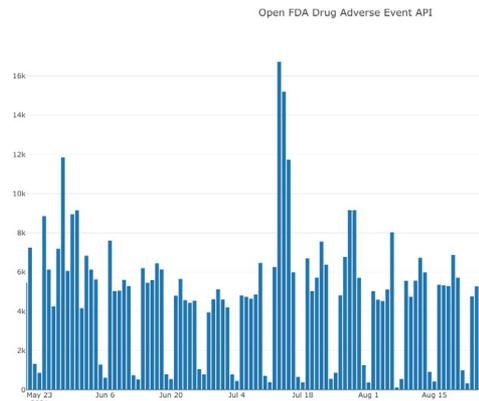
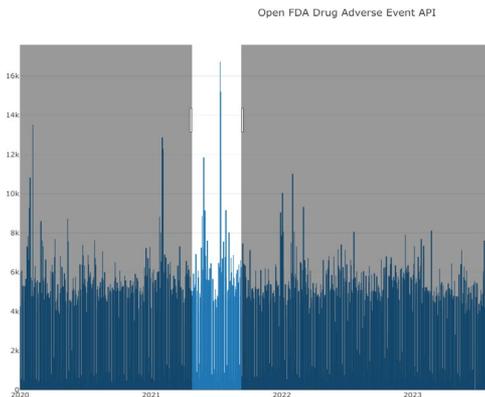
Adverse Event Report Continued

- The hyperlink will open the JSON in a separate tab
- Although it isn't the prettiest presentation of the information, JSON readers can be added to your browser for some enhanced viewing

```
▼ "results": [  
  ▼ {  
    "safetyreportid": "5210389-1",  
    "transmissiondateformat": "102",  
    "transmissiondate": "20070707",  
    "serious": "1",  
    "seriousnessother": "1",  
    "receivedateformat": "102",  
    "receivedate": "20070117",  
    "receiptdateformat": "102",  
    "receiptdate": "20070110",  
    "fulfillexpeditecriteria": "2",  
    "companynumb": "971223-008013562",  
    ▼ "primarysource": {  
      "reportercountry": "BELGIUM",  
      "qualification": "3"  
    },  
    ▼ "sender": {  
      "senderorganization": "FDA-Public Use"  
    },  
  },  
]
```

Example 1 Query

- Narrow down to the highest event peak of reports based on received date between 2020 and 2025
 - When was it?
- **Insert Your URL:**
- Notice how you can click and drag the chart to zoom in



Example 1 Query Continued

- What was the drug involved with the spike?
- **Insert Your URL:**

Example 1 Query Continued

- What were the reactions/problems associated with the event?
- **Insert Your URL:**

Example 1 Query Continued

Were the events mostly reported by the public or by manufacturers?

Insert Your URL:

Thoughts?

Example 2

Look up reactions reported for enoxaparin and dalteparin

Are the results what you are expecting

Look at a detailed safety report and explain

Insert Your URL(s):

Example 3

- Explore your own observations
- **Insert Your URL(s):**