

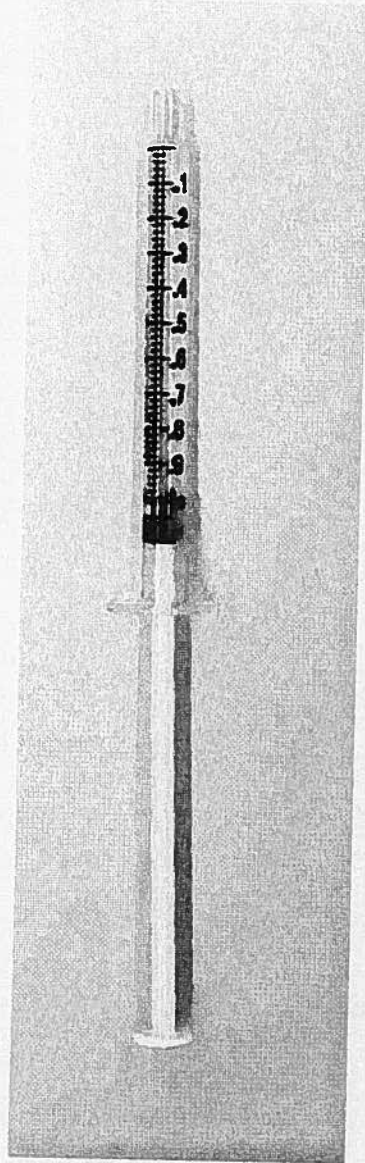
Merrimack  
Valley Hospice



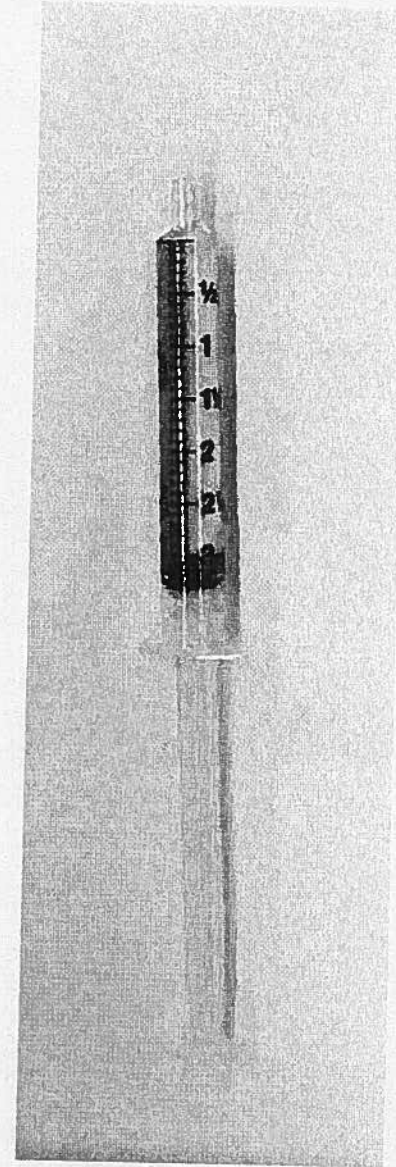
# Concentration and Dose

# What is one syringeful ?

1ml



3ml



# What is a Dose ?

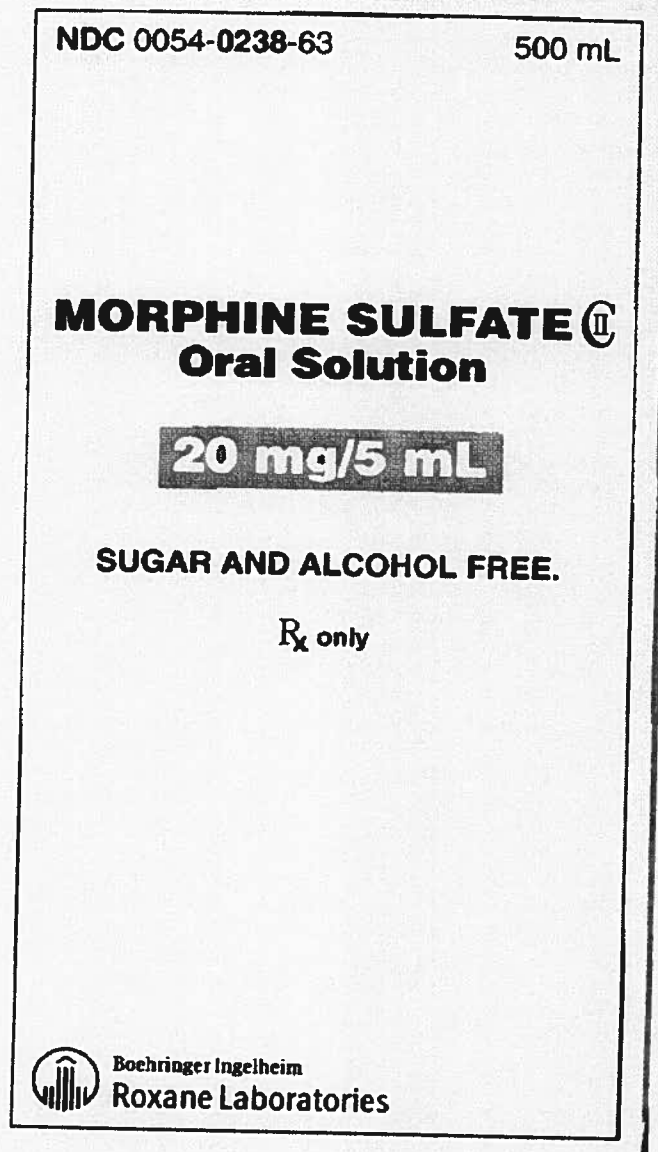
The measured quantity of a therapeutic agent to be taken at one time

– Merriam-Webster.com

# Units

- gm      gram
- mg      milligram
- mcg     microgram
- mEq     milliequivalent
- ml      milliliter
- gtt     drop


# STANDARD ?



- Commercially available
- Not highly Concentrated
- Household measurement
- 20mg = 1 tsp (5ml)
- Good for small doses  
2mg = 0.5ml

# Standard from Comfort Kit

NDC 0054-0404-50 120 mL

**MORPHINE SULFATE**  
Oral Solution 


**100 mg per 5 mL**  
**(20 mg/mL)**

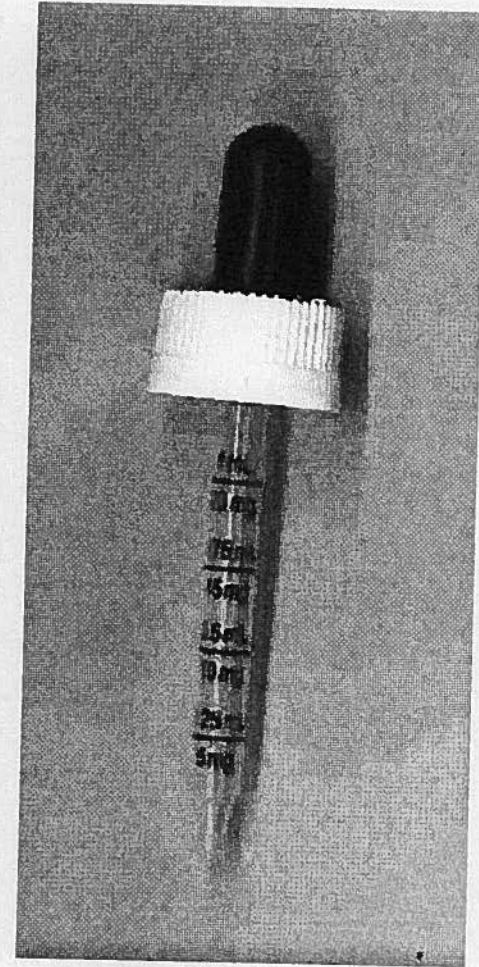
**ONLY FOR USE IN PATIENTS  
WHO ARE OPIOID TOLERANT**

**PHARMACIST: Must dispense  
the enclosed Medication Guide  
to each patient.**

Sugar and Alcohol Free.

R<sub>x</sub> only

 **Boehringer Ingelheim**  
**Roxane Laboratories**



# STANDARD



Roxanol® 20mg/ml  
Morphine Sul 20mg/ml  
1ml oral syringe supplied

**LONG-TERM PHARMACY SOLUTION (978)458-4000**  
225 STEDMAN ST UNIT 27 LOWELL MA 01851

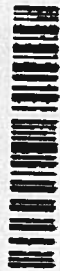
**Rx# 2665100 M/J** Dr. NOWAK, J  
**TEST (MVH), PATIENT** 04/21/11  
360 MERRIMACK ST BLD 04/21/11  
LAWRENCE, MA 01843 (978)552-4000

**5-20MG (0.25-1ML) BY MOUTH OR  
UNDER TONGUE EVERY 2 HOURS AS  
NEEDED FOR PAIN/ RESPIRATORY  
DISTRESS**

**IC: MORPHINE SUL 20MG/M SOL ROXA  
For > ROXANOL 20MG/ML SOL  
NO REFILLS**

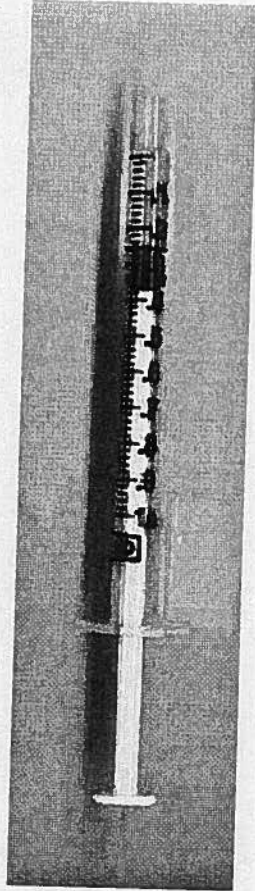
**QTY: 15 ML Discard After 04/20/2012**

CAUTION: Federal & state laws prohibit transfer of this drug to any person other than the patient for whom prescribed.

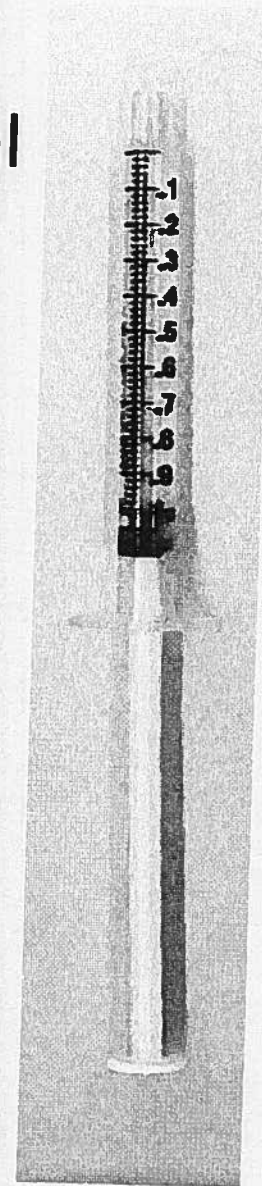


# Measurements

5mg = 0.25ml



20mg = 1ml





# EQUAL DOSE

## Different Concentration

**LONG-TERM PHARMACY SOLUTION (978)458-4000**  
225 STEDMAN ST UNIT 27 LOWELL MA 01851

**Rx# 2665109 MJ**

**Dr. NOWAK, J**

**TEST (MVH), PATIENT**  
360 MERRIMACK ST BLD  
LAWRENCE, MA 01843

**04/21/11**

**04/21/11**

**(978)552-4000**

**20-50MG (1-2.5ML) BY MOUTH OR**  
**UNDER TONGUE EVERY 2 HOURS AS**  
**NEEDED FOR PAIN/ RESPIRATORY**  
**DISTRESS**

**IC: MORPHINE SUL 20MG/M SOL ROXA**  
**For > ROXANOL 20MG/ML SOL**

**NO REFILLS**

**QTY: 30 ML Discard After 04/20/2012**



CAUTION: Federal & state laws prohibit transfer of this drug to any person other than the patient or whom prescriber

**LONG-TERM PHARMACY SOLUTION (978)458-4000**  
225 STEDMAN ST UNIT 27 LOWELL MA 01851

**Rx# 2665101 MJ**

**Dr. NOWAK, J**

**TEST (MVH), PATIENT**  
360 MERRIMACK ST BLD  
LAWRENCE, MA 01843

**04/21/11**

**04/21/11**

**(978)552-4000**

**20-50MG (0.4-1ML) BY MOUTH OR**  
**UNDER TONGUE EVERY 2 HOURS AS**  
**NEEDED FOR PAIN/ RESPIRATORY**  
**DISTRESS**

**C-MORPHINE OS 50MG/ML ORAL S**

**NO REFILLS**

**QTY: 30 ML Discard After 05/21/2011**



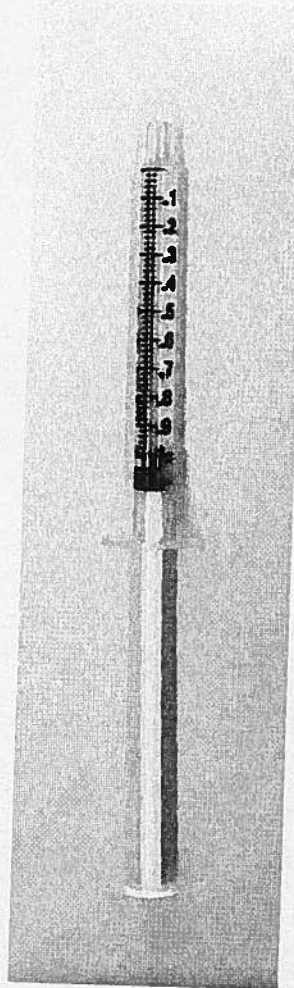
CAUTION: Federal & state laws prohibit transfer of this drug to any person other than the patient or whom prescriber

# WHAT IS THE DOSE ?

MORPHINE SULF  
20mg/ml

DOSE = 20mg

QTY = 1ml



MORPHINE SULF  
50mg/ml

DOSE = 20mg

QTY = 0.4ml



# One syringeful

**LONG-TERM PHARMACY SOLUTION (978)458-4000**  
**225 STEDMAN ST UNIT 27 LOWELL MA 01851**

**Rx# 2665109 MJ**

**Dr. NOWAK, J**

**TEST (MVH), PATIENT**

**04/21/11**

**360 MERRIMACK ST BLD**

**04/21/11**

**LAWRENCE, MA 01843**

**(978)552-4000**

**20-50MG (1-2.5ML) BY MOUTH OR  
UNDER TONGUE EVERY 2 HOURS AS  
NEEDED FOR PAIN/ RESPIRATORY  
DISTRESS**

**IC: MORPHINE SUL 20MG/M SOL ROXA  
For > ROXANOL 20MG/ML SOL**

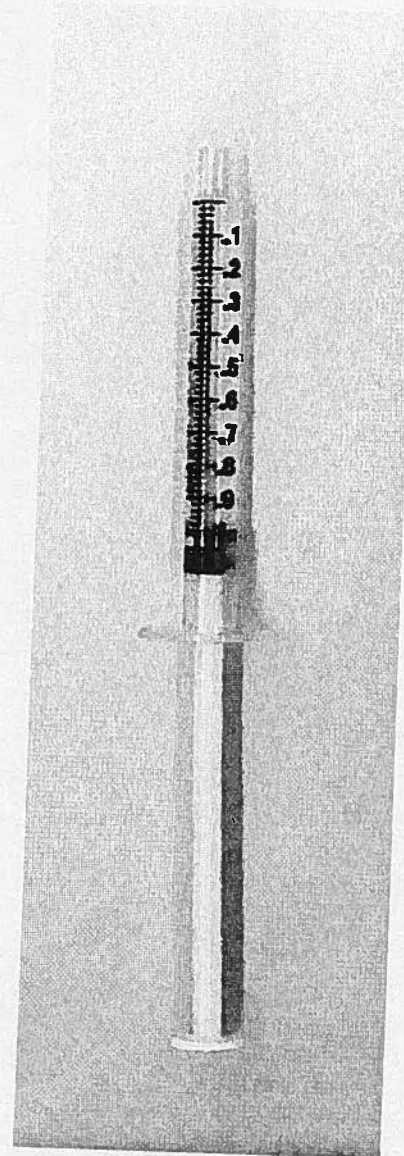
**NO REFILLS**

**QTY: 30 ML Discard After 04/20/2012**



CAUTION: Federal & state laws restrict transfer of this drug to any person other than the patient for whom prescribed.

**1ml = 20mg**



# One syringeful

**LONG-TERM PHARMACY SOLUTION (978)458-4000  
225 STEDMAN ST UNIT 27 LOWELL MA 01851**

**Rx# 2665101 MJ**

**Dr. NOWAK, J**

**TEST (MVH), PATIENT**

**04/21/11**

**360 MERRIMACK ST BLD**

**04/21/11**

**LAWRENCE, MA 01843**

**(978)562-4000**

**20-50MG (0.4-1ML) BY MOUTH OR  
UNDER TONGUE EVERY 2 HOURS AS  
NEEDED FOR PAIN/ RESPIRATORY  
DISTRESS**

**C-MORPHINE OS 50MG/ML ORAL S**

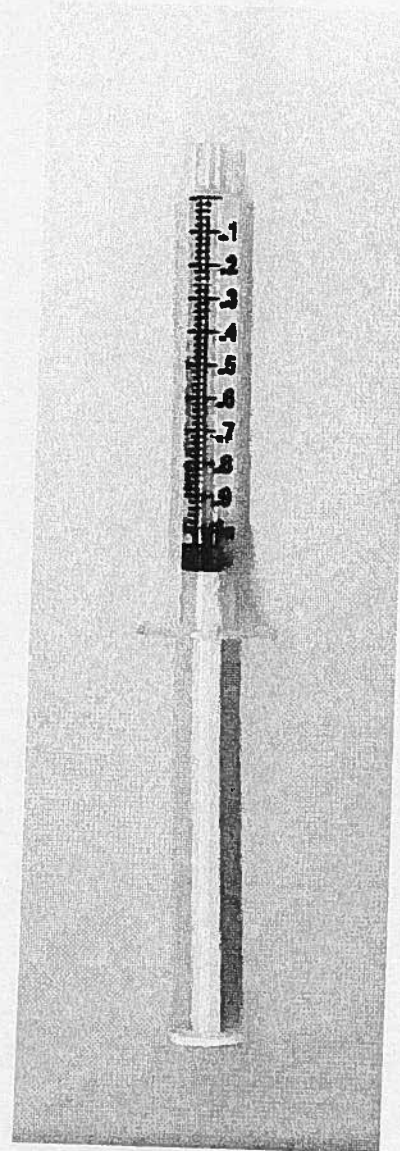
**NO REFILLS**

**QTY: 30 ML Discard After 05/21/2011**



CAUTION: Federal & state laws prohibit transfer of this drug to any person other than the patient to whom prescribed.

**1ml = 50mg**



# Dilaudid<sup>®</sup> Liquid

DILAUDID-5 1 MG/ML LIQUID



- Commercially available  
5mg/5ml (1mg/ml)
- Household measurement  
1 teaspoonful = 5ml

# Hydromorphone liquid

**LONG-TERM PHARMACY SOLUTION (978)458-4000**  
**225 STEDMAN ST UNIT 27 LOWELL MA 01851**

**Rx# 2661472 KA2**      **Dr. MUELLER, A**

**360 NORTH AVE.**  
**HAVERHILL, MA 01830**

**12/20/10**  
**12/20/10**  
**(978)377-9032**

**TAKE 1MG-4MG(0.25ML-1ML) BY**  
**MOUTH EVERY 2HRS. AS NEEDED**  
**FOR PAIN/RESP. DISTRESS**

**C-HYDROMORPHONE 4MG/ML OS**

**NO REFILLS, QTY REMAIN: 30 BY 02/18/11**

**QTY: 30 ML Discard After 01/19/2011**

CAUTION: Federal II. Abuse and Potential for Abuse of This Drug  
is a Schedule II drug. Abuse may lead to addiction, dependence, and other serious risks.



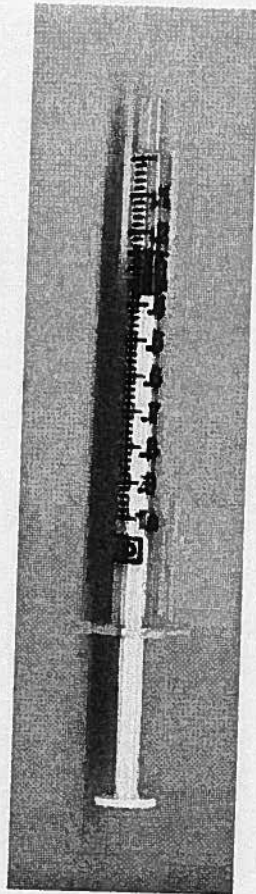
- Custom Compound
- Standard concentration  
4mg/ ml oral solution
- Higher concentrations  
available

# How Many Doses in a full syringe? Hydromorphone 4mg/ml solution

Dose = 1mg

Dose = 0.25ml

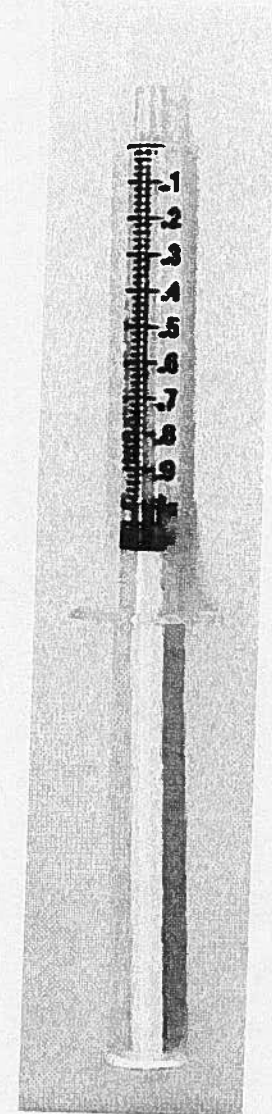
4 doses



Dose = 4mg

Dose = 1ml

1 dose



# Patient Safety & Documentation

- When speaking with a family member on the phone re: medication – you **MUST** have the family member look at the medication container and verify medication, concentration and dosing information
- Have the family member repeat your instructions back twice
- Your note **MUST** include the dosing – “taking Dilaudid every 4 hours” is not adequate.
- If there are any doubts about either the medication or the family’s understanding of instructions, a visit **MUST** be made