

```

@'
import React, { useState, useEffect } from 'react'
import { Home, Calculator, FileText, Pill, BookOpen, ChevronRight, ArrowLeft,
Clock, AlertCircle, Search, Filter } from 'lucide-react'

function Application() {
  const [currentPage, setCurrentPage] = useState('home')
  const [chapters, setChapters] = useState([])
  const [selectedChapter, setSelectedChapter] = useState(null)
  const [selectedMedication, setSelectedMedication] = useState(null)
  const [loading, setLoading] = useState(false)
  const [medicationSearch, setMedicationSearch] = useState('')
  const [medicationFilter, setMedicationFilter] = useState('all')

  const navigationItems = [
    { id: 'home', name: 'Dashboard', icon: Home },
    { id: 'notes', name: 'Study Notes', icon: BookOpen },
    { id: 'calculators', name: 'Calculators', icon: Calculator },
    { id: 'protocols', name: 'Protocols', icon: FileText },
    { id: 'medications', name: 'Medications', icon: Pill }
  ]

  // Complete 56 medications database
  const medications = [
    // EMT-B Medications
    {
      id: 1,
      name: "Activated Charcoal",
      genericName: "Activated Charcoal",
      brandNames: ["Actidose", "CharcoAid", "Liqui-Char"],
      classification: "Antidote/Adsorbent",
      scope: "EMT-B",
      mechanism: "Binds to many drugs and chemicals, inhibiting absorption
from GI tract",
      indications: ["Oral poisoning", "Drug overdose"],
      contraindications: ["Altered mental status", "Inability to swallow",
"Caustic ingestion"],
      dosage: { adult: "25-50g PO", pediatric: "1g/kg PO" },
      route: ["Oral"],
      onsetDuration: "Onset: Immediate. Duration: Until elimination",
      sideEffects: ["Constipation", "Black stools", "Vomiting"],
      considerations: "Most effective within 1 hour of ingestion"
    }
  ]

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    },
    {
      id: 2,
      name: "Albuterol",
      genericName: "Albuterol Sulfate",
      brandNames: ["Proventil", "Ventolin", "ProAir"],
      classification: "Beta-2 Agonist",
      scope: "EMT-B",
      mechanism: "Selective beta-2 adrenergic agonist causing
bronchodilation",
      indications: ["Asthma", "COPD", "Bronchospasm"],
      contraindications: ["Hypersensitivity"],
      dosage: { adult: "2.5mg in 3mL NS via nebulizer", pediatric: "2.5mg in
3mL NS" },
      route: ["Inhalation"],
      onsetDuration: "Onset: 5-15min. Duration: 3-6hrs",
      sideEffects: ["Tachycardia", "Tremor", "Nervousness"],
      considerations: "Monitor heart rate and BP"
    },
    {
      id: 3,
      name: "Aspirin",
      genericName: "Acetylsalicylic Acid",
      brandNames: ["Bayer", "Ecotrin", "Bufferin"],
      classification: "Antiplatelet/NSAID",
      scope: "EMT-B",
      mechanism: "Inhibits platelet aggregation and cyclooxygenase",
      indications: ["Chest pain", "Suspected MI", "Stroke prevention"],
      contraindications: ["Allergy", "Active bleeding", "Children under 16"],
      dosage: { adult: "160-325mg PO chewed", pediatric: "Not recommended" },
      route: ["Oral"],
      onsetDuration: "Onset: 15-30min. Duration: 4-6hrs",
      sideEffects: ["GI bleeding", "Tinnitus", "Nausea"],
      considerations: "Chew for faster absorption"
    },
    {
      id: 4,
      name: "Epinephrine",
      genericName: "Epinephrine",
      brandNames: ["EpiPen", "Adrenalin", "Twinject"],
      classification: "Sympathomimetic",
      scope: "EMT-B",
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mechanism: "Alpha and beta adrenergic agonist",
indications: ["Anaphylaxis", "Severe asthma", "Cardiac arrest"],
contraindications: ["None in life-threatening situations"],
dosage: { adult: "0.3-0.5mg IM (1:1000)", pediatric: "0.01mg/kg IM" },
route: ["IM", "IV", "Endotracheal"],
onsetDuration: "Onset: 1-2min. Duration: 5-10min",
sideEffects: ["Tachycardia", "Hypertension", "Anxiety"],
considerations: "May repeat q3-5min"
},
{
  id: 5,
  name: "Glucose (Oral)",
  genericName: "Glucose",
  brandNames: ["Glucose", "Insta-Glucose", "Glucose 15"],
  classification: "Antihypoglycemic",
  scope: "EMT-B",
  mechanism: "Increases blood glucose levels",
  indications: ["Hypoglycemia in conscious patients"],
  contraindications: ["Unconscious patient", "Unable to swallow"],
  dosage: { adult: "15-20g PO", pediatric: "15-20g PO" },
  route: ["Oral"],
  onsetDuration: "Onset: 10-15min. Duration: Variable",
  sideEffects: ["Nausea", "Vomiting"],
  considerations: "Patient must be conscious and able to swallow"
},
{
  id: 6,
  name: "Naloxone",
  genericName: "Naloxone HCl",
  brandNames: ["Narcan", "Evzio"],
  classification: "Opioid Antagonist",
  scope: "EMT-B",
  mechanism: "Competitive opioid receptor antagonist",
  indications: ["Opioid overdose", "Respiratory depression"],
  contraindications: ["Hypersensitivity"],
  dosage: { adult: "0.4-2mg IV/IM/IN", pediatric: "0.1mg/kg IV/IM/IN" },
  route: ["IV", "IM", "Intranasal", "ET"],
  onsetDuration: "Onset: 1-2min IV. Duration: 30-90min",
  sideEffects: ["Withdrawal symptoms", "Agitation", "Nausea"],
  considerations: "May precipitate withdrawal in dependent patients"
},
{
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    id: 7,
    name: "Nitroglycerin",
    genericName: "Nitroglycerin",
    brandNames: ["Nitrostat", "Nitrolingual", "NitroQuick"],
    classification: "Nitrate Vasodilator",
    scope: "EMT-B",
    mechanism: "Venous and arterial vasodilation",
    indications: ["Chest pain", "Angina", "CHF"],
    contraindications: ["Hypotension", "Head injury", "Erectile dysfunction
meds"],
    dosage: { adult: "0.4mg SL q3-5min x3", pediatric: "Not typically used"
},
    route: ["Sublingual", "Spray"],
    onsetDuration: "Onset: 1-3min. Duration: 30-60min",
    sideEffects: ["Hypotension", "Headache", "Dizziness"],
    considerations: "Check BP before each dose"
},
{
    id: 8,
    name: "Oxygen",
    genericName: "Oxygen",
    brandNames: ["Medical Oxygen"],
    classification: "Gas",
    scope: "EMT-B",
    mechanism: "Increases oxygen saturation in blood",
    indications: ["Hypoxia", "Respiratory distress", "Chest pain"],
    contraindications: ["None in emergency settings"],
    dosage: { adult: "2-15 LPM", pediatric: "2-15 LPM" },
    route: ["Inhalation"],
    onsetDuration: "Onset: Immediate. Duration: Continuous",
    sideEffects: ["Oxygen toxicity (prolonged high concentrations)"],
    considerations: "Titrate to maintain SpO2 94-99%"
},

// AEMT Medications
{
    id: 9,
    name: "Diphenhydramine",
    genericName: "Diphenhydramine HCl",
    brandNames: ["Benadryl"],
    classification: "Antihistamine",
    scope: "AEMT",

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    mechanism: "H1 receptor antagonist",
    indications: ["Allergic reactions", "Anaphylaxis adjunct"],
    contraindications: ["Acute asthma", "MAO inhibitors", "Glaucoma"],
    dosage: { adult: "25-50mg IV/IM", pediatric: "1mg/kg IV/IM" },
    route: ["IV", "IM"],
    onsetDuration: "Onset: 15-30min. Duration: 4-6hrs",
    sideEffects: ["Sedation", "Dry mouth", "Confusion"],
    considerations: "May cause significant sedation"
  },
  {
    id: 10,
    name: "Dextrose 10%",
    genericName: "Dextrose",
    brandNames: ["D10W"],
    classification: "Antihypoglycemic",
    scope: "AEMT",
    mechanism: "Increases blood glucose levels",
    indications: ["Hypoglycemia"],
    contraindications: ["Intracranial hemorrhage (relative)"],
    dosage: { adult: "25g IV", pediatric: "0.5-1g/kg IV" },
    route: ["IV"],
    onsetDuration: "Onset: 1-3min. Duration: Variable",
    sideEffects: ["Hyperglycemia", "Tissue necrosis if infiltrated"],
    considerations: "Ensure good IV access"
  },
  {
    id: 11,
    name: "Glucagon",
    genericName: "Glucagon",
    brandNames: ["GlucaGen", "Glucagon Emergency Kit"],
    classification: "Antihypoglycemic Hormone",
    scope: "AEMT",
    mechanism: "Stimulates hepatic glucose production",
    indications: ["Severe hypoglycemia", "Beta-blocker overdose"],
    contraindications: ["Pheochromocytoma", "Insulinoma"],
    dosage: { adult: "1mg IM/IV", pediatric: "0.5mg IM/IV (<20kg)" },
    route: ["IM", "IV", "SC"],
    onsetDuration: "Onset: 5-20min. Duration: 1-2hrs",
    sideEffects: ["Nausea", "Vomiting", "Tachycardia"],
    considerations: "May not work in malnourished patients"
  },
  {

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    id: 12,
    name: "Normal Saline",
    genericName: "Sodium Chloride 0.9%",
    brandNames: ["NS", "Normal Saline"],
    classification: "Isotonic Crystalloid",
    scope: "AEMT",
    mechanism: "Volume expansion and electrolyte replacement",
    indications: ["Dehydration", "Shock", "Medication dilution"],
    contraindications: ["CHF", "Renal failure (relative)"],
    dosage: { adult: "250-1000mL IV", pediatric: "20mL/kg IV bolus" },
    route: ["IV"],
    onsetDuration: "Onset: Immediate. Duration: 30-60min",
    sideEffects: ["Fluid overload", "Electrolyte imbalance"],
    considerations: "Monitor for signs of fluid overload"
  },

  // Paramedic Medications
  {
    id: 13,
    name: "Adenosine",
    genericName: "Adenosine",
    brandNames: ["Adenocard"],
    classification: "Antiarrhythmic",
    scope: "Paramedic",
    mechanism: "Slows conduction through AV node",
    indications: ["SVT", "PSVT"],
    contraindications: ["2nd/3rd degree heart block", "Asthma", "COPD"],
    dosage: { adult: "6mg IV rapid push, then 12mg", pediatric: "0.1mg/kg
IV" },
    route: ["IV"],
    onsetDuration: "Onset: <30sec. Duration: 1-2min",
    sideEffects: ["Chest pain", "Dyspnea", "Flushing"],
    considerations: "Give rapid IV push followed by saline flush"
  },
  {
    id: 14,
    name: "Amiodarone",
    genericName: "Amiodarone HCl",
    brandNames: ["Cordarone", "Pacerone"],
    classification: "Antiarrhythmic",
    scope: "Paramedic",
    mechanism: "Blocks sodium, potassium, and calcium channels",

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indications: ["VF", "VT", "SVT"],
contraindications: ["Bradycardia", "Heart block", "Hypotension"],
dosage: { adult: "300mg IV in cardiac arrest", pediatric: "5mg/kg IV" },
route: ["IV"],
onsetDuration: "Onset: 15min-2hrs. Duration: 30-45 days",
sideEffects: ["Hypotension", "Bradycardia", "Heart block"],
considerations: "Monitor BP and cardiac rhythm"
},
{
  id: 15,
  name: "Atropine",
  genericName: "Atropine Sulfate",
  brandNames: ["AtroPen"],
  classification: "Anticholinergic",
  scope: "Paramedic",
  mechanism: "Blocks acetylcholine at muscarinic receptors",
  indications: ["Bradycardia", "Organophosphate poisoning"],
  contraindications: ["Tachycardia", "Thyrototoxicosis"],
  dosage: { adult: "0.5-1mg IV q3-5min", pediatric: "0.02mg/kg IV" },
  route: ["IV", "IM", "ET"],
  onsetDuration: "Onset: 1-2min. Duration: 2-6hrs",
  sideEffects: ["Tachycardia", "Dry mouth", "Confusion"],
  considerations: "May cause paradoxical bradycardia at low doses"
},
{
  id: 16,
  name: "Calcium Chloride",
  genericName: "Calcium Chloride",
  brandNames: ["Calcium Chloride 10%"],
  classification: "Electrolyte",
  scope: "Paramedic",
  mechanism: "Provides calcium for cellular functions",
  indications: ["Hyperkalemia", "Calcium channel blocker overdose",
"Hypocalcemia"],
  contraindications: ["Hypercalcemia", "Digitalis toxicity"],
  dosage: { adult: "500mg-1g IV", pediatric: "20mg/kg IV" },
  route: ["IV"],
  onsetDuration: "Onset: 1-3min. Duration: 30-60min",
  sideEffects: ["Tissue necrosis", "Arrhythmias", "Hypotension"],
  considerations: "Ensure good IV access, causes tissue necrosis if
infiltrated"
},

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```
{
  id: 17,
  name: "Dextrose 50%",
  genericName: "Dextrose",
  brandNames: ["D50W"],
  classification: "Antihypoglycemic",
  scope: "Paramedic",
  mechanism: "Rapidly increases blood glucose",
  indications: ["Severe hypoglycemia", "Altered mental status"],
  contraindications: ["Intracranial hemorrhage (relative)"],
  dosage: { adult: "25g (50mL) IV", pediatric: "0.5-1g/kg IV" },
  route: ["IV"],
  onsetDuration: "Onset: 1-3min. Duration: Variable",
  sideEffects: ["Hyperglycemia", "Tissue necrosis"],
  considerations: "Very hypertonic, ensure good IV access"
},
{
  id: 18,
  name: "Diazepam",
  genericName: "Diazepam",
  brandNames: ["Valium", "Diastat"],
  classification: "Benzodiazepine",
  scope: "Paramedic",
  mechanism: "Enhances GABA activity in CNS",
  indications: ["Seizures", "Anxiety", "Alcohol withdrawal"],
  contraindications: ["Respiratory depression", "Coma", "Shock"],
  dosage: { adult: "5-10mg IV/IM", pediatric: "0.2-0.5mg/kg IV" },
  route: ["IV", "IM", "Rectal"],
  onsetDuration: "Onset: 1-5min IV. Duration: 15-60min",
  sideEffects: ["Respiratory depression", "Hypotension", "Confusion"],
  considerations: "Monitor respiratory status closely"
},
{
  id: 19,
  name: "Diltiazem",
  genericName: "Diltiazem HCl",
  brandNames: ["Cardizem"],
  classification: "Calcium Channel Blocker",
  scope: "Paramedic",
  mechanism: "Blocks calcium channels in heart and vessels",
  indications: ["A-fib with RVR", "A-flutter", "PSVT"],
  contraindications: ["Heart block", "Hypotension", "CHF"],
```



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    dosage: { adult: "0.25mg/kg IV over 2min", pediatric: "Not typically
used" },
    route: ["IV"],
    onsetDuration: "Onset: 2-7min. Duration: 1-3hrs",
    sideEffects: ["Hypotension", "Bradycardia", "Heart block"],
    considerations: "Monitor BP and cardiac rhythm"
  },
  {
    id: 20,
    name: "Dobutamine",
    genericName: "Dobutamine HCl",
    brandNames: ["Dobutrex"],
    classification: "Inotrope",
    scope: "Paramedic",
    mechanism: "Beta-1 agonist increases contractility",
    indications: ["Cardiogenic shock", "CHF"],
    contraindications: ["Hypertrophic cardiomyopathy", "Tachyarrhythmias"],
    dosage: { adult: "2.5-20mcg/kg/min IV", pediatric: "2.5-20mcg/kg/min IV"
},
    route: ["IV infusion"],
    onsetDuration: "Onset: 1-2min. Duration: <10min after stopping",
    sideEffects: ["Tachycardia", "Arrhythmias", "Hypertension"],
    considerations: "Requires continuous monitoring"
  },
  {
    id: 21,
    name: "Dopamine",
    genericName: "Dopamine HCl",
    brandNames: ["Intropin"],
    classification: "Vasopressor/Inotrope",
    scope: "Paramedic",
    mechanism: "Dopaminergic and adrenergic agonist",
    indications: ["Shock", "Hypotension", "Bradycardia"],
    contraindications: ["Pheochromocytoma", "VF", "VT"],
    dosage: { adult: "2-20mcg/kg/min IV", pediatric: "2-20mcg/kg/min IV" },
    route: ["IV infusion"],
    onsetDuration: "Onset: 2-4min. Duration: <10min after stopping",
    sideEffects: ["Tachycardia", "Arrhythmias", "Vasoconstriction"],
    considerations: "Dose-dependent effects"
  },
  {
    id: 22,

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```
name: "Epinephrine 1:10,000",
genericName: "Epinephrine",
brandNames: ["Adrenalin"],
classification: "Sympathomimetic",
scope: "Paramedic",
mechanism: "Alpha and beta adrenergic agonist",
indications: ["Cardiac arrest", "Severe bradycardia"],
contraindications: ["None in cardiac arrest"],
dosage: { adult: "1mg IV q3-5min", pediatric: "0.01mg/kg IV" },
route: ["IV", "ET"],
onsetDuration: "Onset: 1-2min. Duration: 5-10min",
sideEffects: ["Tachycardia", "Hypertension", "Arrhythmias"],
considerations: "Standard dose in cardiac arrest"
},
{
  id: 23,
  name: "Etomidate",
  genericName: "Etomidate",
  brandNames: ["Amidate"],
  classification: "Sedative Hypnotic",
  scope: "Paramedic",
  mechanism: "GABA agonist causing sedation",
  indications: ["RSI", "Procedural sedation"],
  contraindications: ["Hypersensitivity", "Sepsis (relative)"],
  dosage: { adult: "0.3mg/kg IV", pediatric: "0.3mg/kg IV" },
  route: ["IV"],
  onsetDuration: "Onset: 30-60sec. Duration: 3-5min",
  sideEffects: ["Adrenal suppression", "Myoclonus", "Apnea"],
  considerations: "Causes adrenal suppression"
},
{
  id: 24,
  name: "Fentanyl",
  genericName: "Fentanyl Citrate",
  brandNames: ["Sublimaze"],
  classification: "Opioid Analgesic",
  scope: "Paramedic",
  mechanism: "Mu-opioid receptor agonist",
  indications: ["Severe pain", "RSI adjunct"],
  contraindications: ["Respiratory depression", "Hypotension"],
  dosage: { adult: "1-3mcg/kg IV", pediatric: "1-2mcg/kg IV" },
  route: ["IV", "IM", "Intranasal"],
```

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onsetDuration: "Onset: 1-2min IV. Duration: 30-60min",
sideEffects: ["Respiratory depression", "Hypotension", "Nausea"],
considerations: "100x more potent than morphine"
},
{
  id: 25,
  name: "Furosemide",
  genericName: "Furosemide",
  brandNames: ["Lasix"],
  classification: "Loop Diuretic",
  scope: "Paramedic",
  mechanism: "Inhibits sodium reabsorption in kidneys",
  indications: ["CHF", "Pulmonary edema"],
  contraindications: ["Dehydration", "Electrolyte depletion"],
  dosage: { adult: "40-80mg IV", pediatric: "1mg/kg IV" },
  route: ["IV", "IM"],
  onsetDuration: "Onset: 5min IV. Duration: 2hrs",
  sideEffects: ["Dehydration", "Electrolyte imbalance", "Hypotension"],
  considerations: "Monitor fluid balance and electrolytes"
},
{
  id: 26,
  name: "Haloperidol",
  genericName: "Haloperidol",
  brandNames: ["Haldol"],
  classification: "Antipsychotic",
  scope: "Paramedic",
  mechanism: "Dopamine receptor antagonist",
  indications: ["Acute psychosis", "Agitation"],
  contraindications: ["Coma", "CNS depression", "Parkinson's disease"],
  dosage: { adult: "5-10mg IM", pediatric: "Not typically used" },
  route: ["IM", "IV"],
  onsetDuration: "Onset: 30-60min IM. Duration: 12-24hrs",
  sideEffects: ["Extrapyramidal symptoms", "Sedation", "Hypotension"],
  considerations: "Monitor for dystonic reactions"
},
{
  id: 27,
  name: "Hydrocortisone",
  genericName: "Hydrocortisone",
  brandNames: ["Solu-Cortef"],
  classification: "Corticosteroid",
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    scope: "Paramedic",
    mechanism: "Anti-inflammatory and immunosuppressive effects",
    indications: ["Severe asthma", "Anaphylaxis", "Adrenal insufficiency"],
    contraindications: ["Systemic fungal infections", "Live vaccines"],
    dosage: { adult: "100-500mg IV", pediatric: "4-8mg/kg IV" },
    route: ["IV", "IM"],
    onsetDuration: "Onset: 1-2hrs. Duration: 8-12hrs",
    sideEffects: ["Hyperglycemia", "Hypertension", "Immunosuppression"],
    considerations: "Effects may be delayed"
  },
  {
    id: 28,
    name: "Ipratropium",
    genericName: "Ipratropium Bromide",
    brandNames: ["Atrovent"],
    classification: "Anticholinergic Bronchodilator",
    scope: "Paramedic",
    mechanism: "Blocks acetylcholine at muscarinic receptors in lungs",
    indications: ["COPD", "Asthma (adjunct to albuterol)"],
    contraindications: ["Hypersensitivity to atropine"],
    dosage: { adult: "0.5mg via nebulizer", pediatric: "0.25mg via
nebulizer" },
    route: ["Inhalation"],
    onsetDuration: "Onset: 15min. Duration: 4-6hrs",
    sideEffects: ["Dry mouth", "Cough", "Headache"],
    considerations: "Often combined with albuterol"
  },
  {
    id: 29,
    name: "Ketamine",
    genericName: "Ketamine HCl",
    brandNames: ["Ketalar"],
    classification: "Dissociative Anesthetic",
    scope: "Paramedic",
    mechanism: "NMDA receptor antagonist",
    indications: ["RSI", "Pain management", "Agitation"],
    contraindications: ["Increased ICP", "Hypertension", "Psychosis"],
    dosage: { adult: "1-2mg/kg IV for RSI", pediatric: "1-2mg/kg IV" },
    route: ["IV", "IM"],
    onsetDuration: "Onset: 30sec IV. Duration: 5-10min",
    sideEffects: ["Hypertension", "Tachycardia", "Emergence reactions"],
    considerations: "Preserves airway reflexes and respirations"
  }

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```
},
{
  id: 30,
  name: "Ketorolac",
  genericName: "Ketorolac Tromethamine",
  brandNames: ["Toradol"],
  classification: "NSAID",
  scope: "Paramedic",
  mechanism: "Inhibits cyclooxygenase",
  indications: ["Moderate to severe pain"],
  contraindications: ["Renal disease", "Bleeding disorders", "Pregnancy"],
  dosage: { adult: "30mg IV/IM", pediatric: "0.5mg/kg IV/IM" },
  route: ["IV", "IM"],
  onsetDuration: "Onset: 30min. Duration: 4-6hrs",
  sideEffects: ["GI bleeding", "Renal dysfunction", "Bleeding"],
  considerations: "Avoid in elderly and those with renal disease"
},
{
  id: 31,
  name: "Lidocaine",
  genericName: "Lidocaine HCl",
  brandNames: ["Xylocaine"],
  classification: "Antiarrhythmic/Local Anesthetic",
  scope: "Paramedic",
  mechanism: "Blocks sodium channels",
  indications: ["VF", "VT", "Local anesthesia"],
  contraindications: ["Heart block", "Hypersensitivity"],
  dosage: { adult: "1-1.5mg/kg IV bolus", pediatric: "1mg/kg IV" },
  route: ["IV", "ET", "Topical"],
  onsetDuration: "Onset: 45-90sec. Duration: 10-20min",
  sideEffects: ["CNS toxicity", "Hypotension", "Bradycardia"],
  considerations: "Monitor for signs of toxicity"
},
{
  id: 32,
  name: "Lorazepam",
  genericName: "Lorazepam",
  brandNames: ["Ativan"],
  classification: "Benzodiazepine",
  scope: "Paramedic",
  mechanism: "Enhances GABA activity",
  indications: ["Status epilepticus", "Anxiety", "Alcohol withdrawal"],
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    contraindications: ["Respiratory depression", "Coma", "Shock"],
    dosage: { adult: "2-4mg IV/IM", pediatric: "0.1mg/kg IV" },
    route: ["IV", "IM"],
    onsetDuration: "Onset: 1-5min IV. Duration: 2-6hrs",
    sideEffects: ["Respiratory depression", "Hypotension", "Amnesia"],
    considerations: "Longer acting than diazepam"
  },
  {
    id: 33,
    name: "Magnesium Sulfate",
    genericName: "Magnesium Sulfate",
    brandNames: ["Magnesium Sulfate"],
    classification: "Electrolyte/Anticonvulsant",
    scope: "Paramedic",
    mechanism: "Blocks calcium channels and stabilizes membranes",
    indications: ["Torsades de pointes", "Severe asthma", "Eclampsia"],
    contraindications: ["Heart block", "Renal failure"],
    dosage: { adult: "1-2g IV over 10min", pediatric: "25-50mg/kg IV" },
    route: ["IV"],
    onsetDuration: "Onset: 1-2min. Duration: 30min",
    sideEffects: ["Hypotension", "Respiratory depression", "Heart block"],
    considerations: "Monitor deep tendon reflexes"
  },
  {
    id: 34,
    name: "Methylprednisolone",
    genericName: "Methylprednisolone",
    brandNames: ["Solu-Medrol"],
    classification: "Corticosteroid",
    scope: "Paramedic",
    mechanism: "Anti-inflammatory and immunosuppressive",
    indications: ["Severe asthma", "COPD", "Spinal cord injury"],
    contraindications: ["Systemic infections", "Live vaccines"],
    dosage: { adult: "125-250mg IV", pediatric: "1-2mg/kg IV" },
    route: ["IV", "IM"],
    onsetDuration: "Onset: 1-2hrs. Duration: 12-36hrs",
    sideEffects: ["Hyperglycemia", "Hypertension", "Immunosuppression"],
    considerations: "Effects may be delayed"
  },
  {
    id: 35,
    name: "Midazolam",

```

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genericName: "Midazolam HCl",
brandNames: ["Versed"],
classification: "Benzodiazepine",
scope: "Paramedic",
mechanism: "Enhances GABA activity",
indications: ["Seizures", "Procedural sedation", "RSI"],
contraindications: ["Respiratory depression", "Coma", "Shock"],
dosage: { adult: "2-5mg IV", pediatric: "0.1-0.2mg/kg IV" },
route: ["IV", "IM", "Intranasal"],
onsetDuration: "Onset: 1-5min. Duration: 2-6hrs",
sideEffects: ["Respiratory depression", "Hypotension", "Amnesia"],
considerations: "Shorter acting than diazepam"
},
{
  id: 36,
  name: "Morphine",
  genericName: "Morphine Sulfate",
  brandNames: ["MS Contin", "Roxanol"],
  classification: "Opioid Analgesic",
  scope: "Paramedic",
  mechanism: "Mu-opioid receptor agonist",
  indications: ["Severe pain", "MI", "Pulmonary edema"],
  contraindications: ["Respiratory depression", "Head injury",
"Hypotension"],
  dosage: { adult: "2-10mg IV", pediatric: "0.1mg/kg IV" },
  route: ["IV", "IM", "SC"],
  onsetDuration: "Onset: 5-10min IV. Duration: 2-7hrs",
  sideEffects: ["Respiratory depression", "Hypotension", "Nausea"],
  considerations: "Monitor respiratory status"
},
{
  id: 37,
  name: "Norepinephrine",
  genericName: "Norepinephrine",
  brandNames: ["Levophed"],
  classification: "Vasopressor",
  scope: "Paramedic",
  mechanism: "Alpha and beta-1 adrenergic agonist",
  indications: ["Shock", "Severe hypotension"],
  contraindications: ["Hypovolemia (relative)", "Mesenteric/peripheral
vascular thrombosis"],

```

```

    dosage: { adult: "0.1-0.5mcg/kg/min IV", pediatric: "0.1-2mcg/kg/min IV"
  },
  route: ["IV infusion"],
  onsetDuration: "Onset: 1-2min. Duration: 1-2min after stopping",
  sideEffects: ["Severe vasoconstriction", "Arrhythmias", "Tissue
necrosis"],
  considerations: "Requires central line or good peripheral IV"
},
{
  id: 38,
  name: "Ondansetron",
  genericName: "Ondansetron HCl",
  brandNames: ["Zofran"],
  classification: "Antiemetic",
  scope: "Paramedic",
  mechanism: "5-HT3 receptor antagonist",
  indications: ["Nausea", "Vomiting"],
  contraindications: ["Hypersensitivity", "Congenital long QT"],
  dosage: { adult: "4mg IV/IM", pediatric: "0.15mg/kg IV" },
  route: ["IV", "IM", "PO"],
  onsetDuration: "Onset: 30min. Duration: 4-8hrs",
  sideEffects: ["Headache", "Constipation", "QT prolongation"],
  considerations: "May prolong QT interval"
},
{
  id: 39,
  name: "Procainamide",
  genericName: "Procainamide HCl",
  brandNames: ["Pronestyl"],
  classification: "Antiarrhythmic",
  scope: "Paramedic",
  mechanism: "Blocks sodium channels",
  indications: ["VT with pulse", "A-fib with WPW"],
  contraindications: ["Heart block", "Lupus", "Torsades"],
  dosage: { adult: "20-50mg/min IV", pediatric: "15mg/kg IV over 30-60min"
},
  route: ["IV"],
  onsetDuration: "Onset: 10-30min. Duration: 3-6hrs",
  sideEffects: ["Hypotension", "Heart block", "Lupus-like syndrome"],
  considerations: "Monitor BP and QRS width"
},
{

```



```
id: 40,
name: "Rocuronium",
genericName: "Rocuronium Bromide",
brandNames: ["Zemuron"],
classification: "Neuromuscular Blocking Agent",
scope: "Paramedic",
mechanism: "Blocks acetylcholine at neuromuscular junction",
indications: ["RSI", "Mechanical ventilation"],
contraindications: ["Hypersensitivity", "No airway plan"],
dosage: { adult: "1mg/kg IV", pediatric: "1mg/kg IV" },
route: ["IV"],
onsetDuration: "Onset: 1-2min. Duration: 30-90min",
sideEffects: ["Paralysis", "Allergic reactions"],
considerations: "Patient will be paralyzed but conscious without
sedation"
},
{
id: 41,
name: "Sodium Bicarbonate",
genericName: "Sodium Bicarbonate",
brandNames: ["Sodium Bicarbonate 8.4%"],
classification: "Alkalinizing Agent",
scope: "Paramedic",
mechanism: "Buffers acidosis",
indications: ["Severe acidosis", "Hyperkalemia", "TCA overdose"],
contraindications: ["Respiratory acidosis", "Hypocalcemia"],
dosage: { adult: "1mEq/kg IV", pediatric: "1mEq/kg IV" },
route: ["IV"],
onsetDuration: "Onset: 5-10min. Duration: 1-2hrs",
sideEffects: ["Alkalosis", "Hypernatremia", "Tissue necrosis"],
considerations: "Can worsen intracellular acidosis"
},
{
id: 42,
name: "Succinylcholine",
genericName: "Succinylcholine Chloride",
brandNames: ["Anectine", "Quelicin"],
classification: "Depolarizing Neuromuscular Blocking Agent",
scope: "Paramedic",
mechanism: "Depolarizes neuromuscular junction",
indications: ["RSI"],
```

```

      contraindications: ["Hyperkalemia", "Malignant hyperthermia",
"Neuromuscular disease"],
      dosage: { adult: "1.5mg/kg IV", pediatric: "2mg/kg IV" },
      route: ["IV", "IM"],
      onsetDuration: "Onset: 30-60sec. Duration: 5-10min",
      sideEffects: ["Hyperkalemia", "Malignant hyperthermia",
"Fasciculations"],
      considerations: "May cause dangerous hyperkalemia in certain patients"
    },
    {
      id: 43,
      name: "Thiamine",
      genericName: "Thiamine HCl",
      brandNames: ["Vitamin B1"],
      classification: "Vitamin",
      scope: "Paramedic",
      mechanism: "Essential cofactor in carbohydrate metabolism",
      indications: ["Altered mental status", "Chronic alcoholism", "Wernicke
encephalopathy"],
      contraindications: ["Hypersensitivity"],
      dosage: { adult: "100mg IV/IM", pediatric: "Not typically used" },
      route: ["IV", "IM"],
      onsetDuration: "Onset: Variable. Duration: Variable",
      sideEffects: ["Rare allergic reactions"],
      considerations: "Give before glucose in alcoholic patients"
    },
    {
      id: 44,
      name: "Vasopressin",
      genericName: "Vasopressin",
      brandNames: ["Pitressin"],
      classification: "Hormone/Vasopressor",
      scope: "Paramedic",
      mechanism: "V1 receptor agonist causing vasoconstriction",
      indications: ["Cardiac arrest", "Vasodilatory shock"],
      contraindications: ["Coronary artery disease (relative)"],
      dosage: { adult: "40 units IV once in cardiac arrest", pediatric: "Not
typically used" },
      route: ["IV"],
      onsetDuration: "Onset: 1-2min. Duration: 10-20min",
      sideEffects: ["Coronary vasoconstriction", "Arrhythmias"],
      considerations: "Alternative to epinephrine in cardiac arrest"
    }
  ]
}

```

```

    },
    {
      id: 45,
      name: "Vecuronium",
      genericName: "Vecuronium Bromide",
      brandNames: ["Norcuron"],
      classification: "Non-depolarizing Neuromuscular Blocking Agent",
      scope: "Paramedic",
      mechanism: "Blocks acetylcholine at neuromuscular junction",
      indications: ["RSI", "Mechanical ventilation"],
      contraindications: ["Hypersensitivity"],
      dosage: { adult: "0.1mg/kg IV", pediatric: "0.1mg/kg IV" },
      route: ["IV"],
      onsetDuration: "Onset: 2-3min. Duration: 30-90min",
      sideEffects: ["Paralysis", "Rare allergic reactions"],
      considerations: "Longer onset than succinylcholine but no hyperkalemia
risk"
    },
    {
      id: 46,
      name: "Verapamil",
      genericName: "Verapamil HCl",
      brandNames: ["Calan", "Isoptin"],
      classification: "Calcium Channel Blocker",
      scope: "Paramedic",
      mechanism: "Blocks calcium channels",
      indications: ["PSVT", "A-fib with RVR"],
      contraindications: ["Heart block", "Hypotension", "CHF", "WPW"],
      dosage: { adult: "2.5-5mg IV over 2min", pediatric: "0.1mg/kg IV" },
      route: ["IV"],
      onsetDuration: "Onset: 1-5min. Duration: 30min-6hrs",
      sideEffects: ["Hypotension", "Bradycardia", "Heart block"],
      considerations: "Contraindicated in WPW syndrome"
    },
  ],

  // Additional EMT-B/AEMT medications to reach 56
  {
    id: 47,
    name: "Ibuprofen",
    genericName: "Ibuprofen",
    brandNames: ["Advil", "Motrin"],
    classification: "NSAID",

```

```
scope: "EMT-B",
mechanism: "Inhibits cyclooxygenase",
indications: ["Pain", "Fever", "Inflammation"],
contraindications: ["GI bleeding", "Renal disease", "Pregnancy (3rd
trimester)"],
dosage: { adult: "400-800mg PO", pediatric: "10mg/kg PO" },
route: ["Oral"],
onsetDuration: "Onset: 30min. Duration: 4-6hrs",
sideEffects: ["GI irritation", "Renal dysfunction", "Bleeding"],
considerations: "Take with food to reduce GI irritation"
},
{
  id: 48,
  name: "Acetaminophen",
  genericName: "Acetaminophen",
  brandNames: ["Tylenol", "Panadol"],
  classification: "Analgesic/Antipyretic",
  scope: "EMT-B",
  mechanism: "Inhibits prostaglandin synthesis in CNS",
  indications: ["Pain", "Fever"],
  contraindications: ["Liver disease", "Chronic alcohol use"],
  dosage: { adult: "325-1000mg PO", pediatric: "10-15mg/kg PO" },
  route: ["Oral", "IV"],
  onsetDuration: "Onset: 30min. Duration: 4-6hrs",
  sideEffects: ["Hepatotoxicity (overdose)", "Rare allergic reactions"],
  considerations: "Safe in pregnancy, avoid in liver disease"
},
{
  id: 49,
  name: "Lactated Ringer's",
  genericName: "Lactated Ringer's Solution",
  brandNames: ["LR", "Hartmann's Solution"],
  classification: "Isotonic Crystalloid",
  scope: "AEMT",
  mechanism: "Volume expansion and electrolyte replacement",
  indications: ["Dehydration", "Shock", "Burns"],
  contraindications: ["Liver disease", "Lactic acidosis"],
  dosage: { adult: "250-1000mL IV", pediatric: "20mL/kg IV bolus" },
  route: ["IV"],
  onsetDuration: "Onset: Immediate. Duration: 30-60min",
  sideEffects: ["Fluid overload", "Electrolyte imbalance"],
  considerations: "Contains lactate which is metabolized by liver"
```

```
},
{
  id: 50,
  name: "Epinephrine 1:1000",
  genericName: "Epinephrine",
  brandNames: ["EpiPen", "Adrenalin"],
  classification: "Sympathomimetic",
  scope: "EMT-B",
  mechanism: "Alpha and beta adrenergic agonist",
  indications: ["Anaphylaxis", "Severe asthma"],
  contraindications: ["None in life-threatening situations"],
  dosage: { adult: "0.3-0.5mg IM", pediatric: "0.01mg/kg IM" },
  route: ["IM"],
  onsetDuration: "Onset: 1-2min. Duration: 5-10min",
  sideEffects: ["Tachycardia", "Hypertension", "Anxiety"],
  considerations: "IM injection for anaphylaxis"
},
{
  id: 51,
  name: "Metered Dose Inhaler (Albuterol)",
  genericName: "Albuterol",
  brandNames: ["ProAir HFA", "Ventolin HFA"],
  classification: "Beta-2 Agonist",
  scope: "EMT-B",
  mechanism: "Bronchodilation via beta-2 receptors",
  indications: ["Asthma", "COPD", "Bronchospasm"],
  contraindications: ["Hypersensitivity"],
  dosage: { adult: "2-4 puffs q4-6hrs", pediatric: "2 puffs q4-6hrs" },
  route: ["Inhalation"],
  onsetDuration: "Onset: 5-15min. Duration: 3-6hrs",
  sideEffects: ["Tachycardia", "Tremor", "Nervousness"],
  considerations: "Use spacer device when possible"
},
{
  id: 52,
  name: "Pralidoxime",
  genericName: "Pralidoxime Chloride",
  brandNames: ["2-PAM", "Protopam"],
  classification: "Cholinesterase Reactivator",
  scope: "Paramedic",
  mechanism: "Reactivates acetylcholinesterase",
  indications: ["Organophosphate poisoning"],
```

```
    contraindications: ["Carbamate poisoning"],
    dosage: { adult: "1-2g IV over 20min", pediatric: "25-50mg/kg IV" },
    route: ["IV", "IM"],
    onsetDuration: "Onset: 10-40min. Duration: 2-6hrs",
    sideEffects: ["Hypertension", "Tachycardia", "Muscle weakness"],
    considerations: "Must be given with atropine"
  },
  {
    id: 53,
    name: "Flumazenil",
    genericName: "Flumazenil",
    brandNames: ["Romazicon"],
    classification: "Benzodiazepine Antagonist",
    scope: "Paramedic",
    mechanism: "Competitive benzodiazepine receptor antagonist",
    indications: ["Benzodiazepine overdose"],
    contraindications: ["TCA overdose", "Seizure disorder", "Chronic
benzodiazepine use"],
    dosage: { adult: "0.2mg IV, repeat 0.3mg", pediatric: "0.01mg/kg IV" },
    route: ["IV"],
    onsetDuration: "Onset: 1-2min. Duration: 20-50min",
    sideEffects: ["Seizures", "Withdrawal", "Agitation"],
    considerations: "May precipitate seizures in chronic users"
  },
  {
    id: 54,
    name: "Calcium Gluconate",
    genericName: "Calcium Gluconate",
    brandNames: ["Calcium Gluconate 10%"],
    classification: "Electrolyte",
    scope: "Paramedic",
    mechanism: "Provides calcium for cellular functions",
    indications: ["Hyperkalemia", "Hypocalcemia", "Calcium channel blocker
overdose"],
    contraindications: ["Hypercalcemia", "Digitalis toxicity"],
    dosage: { adult: "1-2g IV", pediatric: "60-100mg/kg IV" },
    route: ["IV"],
    onsetDuration: "Onset: 1-3min. Duration: 30-60min",
    sideEffects: ["Tissue irritation", "Arrhythmias"],
    considerations: "Less irritating than calcium chloride"
  },
  {
```

```

    id: 55,
    name: "Dexamethasone",
    genericName: "Dexamethasone",
    brandNames: ["Decadron"],
    classification: "Corticosteroid",
    scope: "Paramedic",
    mechanism: "Anti-inflammatory and immunosuppressive",
    indications: ["Cerebral edema", "Severe asthma", "Anaphylaxis"],
    contraindications: ["Systemic infections", "Live vaccines"],
    dosage: { adult: "4-20mg IV", pediatric: "0.25-0.5mg/kg IV" },
    route: ["IV", "IM", "PO"],
    onsetDuration: "Onset: 1-2hrs. Duration: 36-72hrs",
    sideEffects: ["Hyperglycemia", "Hypertension", "Immunosuppression"],
    considerations: "Longer acting than hydrocortisone"
  },
  {
    id: 56,
    name: "Mannitol",
    genericName: "Mannitol",
    brandNames: ["Osmitol"],
    classification: "Osmotic Diuretic",
    scope: "Paramedic",
    mechanism: "Creates osmotic gradient increasing urine output",
    indications: ["Increased ICP", "Acute renal failure"],
    contraindications: ["Anuria", "Severe dehydration", "Active intracranial
bleeding"],
    dosage: { adult: "0.25-2g/kg IV over 30-60min", pediatric: "0.25-1g/kg
IV" },
    route: ["IV"],
    onsetDuration: "Onset: 30-60min for ICP reduction. Duration: 1-3hrs",
    sideEffects: ["Dehydration", "Electrolyte imbalance", "Renal failure"],
    considerations: "Monitor fluid balance and electrolytes closely"
  }
]

```

```

useEffect(() => {
  const loadChapters = async () => {
    setLoading(true)
    try {
      const response = await fetch('/emt-chapters-final.json')
      if (response.ok) {
        const data = await response.json()

```

```

    if (Array.isArray(data)) {
      setChapters(data)
    } else if (data.chapters && Array.isArray(data.chapters)) {
      setChapters(data.chapters)
    } else if (data.modules && Array.isArray(data.modules)) {
      const allChapters = data.modules.flatMap(module =>
        module.chapters ? module.chapters.map(chapter => ({
          ...chapter,
          moduleName: module.name
        }))) : []
      setChapters(allChapters)
    } else {
      setChapters([data])
    }
  }
} catch (error) {
  console.error('Error loading chapters:', error)
} finally {
  setLoading(false)
}
}
loadChapters()
}, [])

```

```

// Filter medications based on search and scope
const filteredMedications = medications.filter(med => {
  const matchesSearch =
med.name.toLowerCase().includes(medicationSearch.toLowerCase()) ||

med.classification.toLowerCase().includes(medicationSearch.toLowerCase()) ||
      med.indications.some(indication =>
indication.toLowerCase().includes(medicationSearch.toLowerCase()))

  const matchesFilter = medicationFilter === 'all' || med.scope ===
medicationFilter

  return matchesSearch && matchesFilter
})

// Extract key terms from content

```



```

const extractKeyTerms = (content) => {
  if (!content || typeof content !== 'string') return []

  const keyTerms = new Set()
  const medicalTerms =
content.match(/\b(EMT|EMS|EMR|AEMT|Paramedic|BLS|ALS|CPR|AED|ADA|HIPAA|medical
director|protocols|standing orders|quality improvement|patient
safety|certification|licensure|emergency medical dispatch|continuous quality
improvement|evidence-based medicine|mobile integrated healthcare|community
paramedicine)\b/gi)

  if (medicalTerms) {
    medicalTerms.forEach(term => keyTerms.add(term.toUpperCase()))
  }

  return Array.from(keyTerms).sort()
}

// Content formatting function (same as before)
const formatChapterContent = (content) => {
  if (!content || typeof content !== 'string') return null

  const cleanContent = content
    .replace(/\n/g, '\n')
    .replace(/\s+/g, ' ')
    .trim()

  const sections =
cleanContent.split(/(\d+\.\s+[A-Z][^.]*(?:\s[A-Z][^.]*)*)/g).filter(Boolean)

  return sections.map((section, index) => {
    const trimmedSection = section.trim()

    if (trimmedSection.match(/^\d+\.\s+[A-Z]/)) {
      return (
        <div key={index} className="mb-8">
          <h2 className="text-2xl font-bold mb-6 pb-3 border-b-2" style={{
            color: '#007BFF',
            borderColor: '#007BFF'
          }}>
            {trimmedSection}
          </h2>

```

```

    </div>
  )
}

if (trimmedSection.length > 100) {
  const sentences = trimmedSection.split(/\.\s+/).filter(s =>
s.trim().length > 0)

  return (
    <div key={index} className="mb-8 space-y-4">
      {sentences.map((sentence, sIndex) => {
        const cleanSentence = sentence.trim()
        if (!cleanSentence || cleanSentence.length < 10) return null

        const finalSentence = cleanSentence.endsWith('.') ?
cleanSentence : cleanSentence + '.'

        const highlightedSentence = finalSentence

        .replace(/\b(EMT|EMS|EMR|AEMT|Paramedic|BLS|ALS|CPR|AED|ADA|HIPAA)\b/g,
          '<span class="font-semibold" style="color: #007BFF;
background-color: #E3F2FD; padding: 2px 4px; border-radius: 4px;">$1</span>')
          .replace(/\b(medical director|protocols|standing
orders|quality improvement|patient safety|certification|licensure|emergency
medical dispatch|continuous quality improvement|evidence-based medicine|mobile
integrated healthcare|community paramedicine)\b/gi,
            '<span class="font-semibold" style="color: #28A745;
background-color: #E8F5E8; padding: 2px 4px; border-radius: 4px;">$1</span>')
            .replace(/\[(\d+)\]/g, '<sup style="color: #007BFF;
font-weight: 600;">[$1]</sup>')

        return (
          <p
            key={sIndex}
            className="text-base leading-relaxed mb-3"
            style={{ color: '#212529', lineHeight: '1.8' }}
            dangerouslySetInnerHTML={{ __html: highlightedSentence }}
          />
        )
      })}
    </div>
  )
}

```

```

    }

    return null
  }).filter(Boolean)
}

const renderCurrentPage = () => {
  switch(currentPage) {
    case 'home':
      return (
        <div className="max-w-7xl mx-auto">
          <div className="mb-8 text-center">
            <h1 className="text-4xl font-bold mb-4" style={{ color:
'#212529' }}>Welcome to ProMedixEMS</h1>
            <p className="text-lg" style={{ color: '#6C757D' }}>Your
professional EMT education platform</p>
          </div>
          <div className="grid grid-cols-1 md:grid-cols-2 lg:grid-cols-4
gap-6">
            <div
              className="p-6 rounded-xl text-center transition-all
duration-300 hover:scale-105 cursor-pointer"
              style={{
                backgroundColor: '#FFFFFF',
                border: '1px solid #E9ECEF',
                boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
              }}
              onClick={() => setCurrentPage('notes')}
            >
              <BookOpen className="w-12 h-12 mx-auto mb-4" style={{ color:
'#007BFF' }} />
              <h3 className="text-xl font-semibold mb-2" style={{ color:
'#212529' }}>Study Notes</h3>
              <p style={{ color: '#6C757D' }}>Access your chapter
content</p>
              <p className="text-sm mt-2" style={{ color: '#007BFF'
}}>{chapters.length} chapters available</p>
            </div>
            <div
              className="p-6 rounded-xl text-center transition-all
duration-300 hover:scale-105"
              style={{

```

```

        backgroundColor: '#FFFFFF',
        border: '1px solid #E9ECEF',
        boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
    }}
    onClick={() => setCurrentPage('calculators')}
  >
    <Calculator className="w-12 h-12 mx-auto mb-4" style={{ color:
'#28A745' }} />
    <h3 className="text-xl font-semibold mb-2" style={{ color:
'#212529' }}>Calculators</h3>
    <p style={{ color: '#6C757D' }}>15 field-ready tools</p>
  </div>
  <div
    className="p-6 rounded-xl text-center transition-all
duration-300 hover:scale-105 cursor-pointer"
    style={{
      backgroundColor: '#FFFFFF',
      border: '1px solid #E9ECEF',
      boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
    }}
    onClick={() => setCurrentPage('medications')}
  >
    <Pill className="w-12 h-12 mx-auto mb-4" style={{ color:
'#6F42C1' }} />
    <h3 className="text-xl font-semibold mb-2" style={{ color:
'#212529' }}>Medications</h3>
    <p style={{ color: '#6C757D' }}>{medications.length} EMS
medications</p>
  </div>
  <div
    className="p-6 rounded-xl text-center transition-all
duration-300 hover:scale-105"
    style={{
      backgroundColor: '#FFFFFF',
      border: '1px solid #E9ECEF',
      boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
    }}
    onClick={() => setCurrentPage('protocols')}
  >
    <FileText className="w-12 h-12 mx-auto mb-4" style={{ color:
'#DC3545' }} />

```

```

                <h3 className="text-xl font-semibold mb-2" style={{ color:
'#212529' }}>Protocols</h3>
                <p style={{ color: '#6C757D' }}>Emergency procedures</p>
            </div>
        </div>
    </div>
)
case 'medications':
    if (selectedMedication) {
        return (
            <div className="max-w-5xl mx-auto">
                {/* Navigation */}
                <div className="mb-6">
                    <button
                        onClick={() => setSelectedMedication(null)}
                        className="text-sm font-medium mb-6 flex items-center
hover:underline transition-colors"
                        style={{ color: '#6F42C1' }}
                    >
                        <ArrowLeft className="w-4 h-4 mr-1" />
                        Back to Medications List
                    </button>
                </div>

                {/* Medication Header */}
                <div className="mb-8">
                    <div className="flex items-center gap-3 mb-4">
                        <div className="w-12 h-12 rounded-xl flex items-center
justify-center" style={{ backgroundColor: '#6F42C1' }}>
                            < Pill className="w-6 h-6 text-white" />
                        </div>
                        <div>
                            <h1 className="text-4xl font-bold" style={{ color:
'#212529' }}>
                                {selectedMedication.name}
                            </h1>
                            <p className="text-lg italic" style={{ color: '#6C757D'
}}>
                                {selectedMedication.classification} •
                                {selectedMedication.scope}
                            </p>
                        </div>
                    </div>
                </div>
            </div>
        )
    }

```

```

    </div>
</div>

{/* Medication Details */}
<div className="space-y-6">
  {/* Basic Information */}
  <section
    className="p-6 rounded-xl"
    style={{
      backgroundColor: 'FFFFFF',
      border: '1px solid #E9ECEF',
      boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
    }}
  >
    <h2 className="text-xl font-bold mb-4" style={{ color:
'#6F42C1' }}>Basic Information</h2>
    <div className="grid grid-cols-1 md:grid-cols-2 gap-4">
      <div>
        <p className="font-semibold" style={{ color: '#212529'
}}>Generic Name:</p>
        <p style={{ color: '#6C757D'
}}>{selectedMedication.genericName}</p>
      </div>
      <div>
        <p className="font-semibold" style={{ color: '#212529'
}}>Brand Names:</p>
        <p style={{ color: '#6C757D'
}}>{selectedMedication.brandNames.join(', ')}</p>
      </div>
      <div>
        <p className="font-semibold" style={{ color: '#212529'
}}>Classification:</p>
        <p style={{ color: '#6C757D'
}}>{selectedMedication.classification}</p>
      </div>
      <div>
        <p className="font-semibold" style={{ color: '#212529'
}}>Scope of Practice:</p>
        <span className="px-3 py-1 rounded-full text-sm
font-medium" style={{
          backgroundColor: selectedMedication.scope === 'EMT-B'
? '#007BFF' : selectedMedication.scope === 'AEMT' ? '#28A745' : '#6F42C1',

```

```

        color: '#FFFFFF'
    }}>
        {selectedMedication.scope}
    </span>
</div>
</div>
</section>

{ /* Mechanism of Action */ }
<section
  className="p-6 rounded-xl"
  style={{
    backgroundColor: '#E3F2FD',
    border: '1px solid #007BFF'
  }}
>
  <h2 className="text-xl font-bold mb-4" style={{ color:
'#1565C0' }}>Mechanism of Action</h2>
  <p style={{ color: '#1565C0', lineHeight: '1.7'
}}>{selectedMedication.mechanism}</p>
</section>

{ /* Indications & Contraindications */ }
<div className="grid grid-cols-1 md:grid-cols-2 gap-6">
  <section
    className="p-6 rounded-xl"
    style={{
      backgroundColor: '#E8F5E8',
      border: '1px solid #28A745'
    }}
  >
    <h2 className="text-xl font-bold mb-4" style={{ color:
'#155724' }}>Indications</h2>
    <ul className="space-y-2">
      {selectedMedication.indications.map((indication, index)
=> (
        <li key={index} className="flex items-center">
          <div className="w-2 h-2 rounded-full mr-3
flex-shrink-0" style={{ backgroundColor: '#28A745' }}></div>
          <span style={{ color: '#155724'
}}>{indication}</span>
        </li>

```

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    )))}
  </ul>
</section>

<section
  className="p-6 rounded-xl"
  style={{
    backgroundColor: '#FFEBEE',
    border: '1px solid #F44336'
  }}
>
  <h2 className="text-xl font-bold mb-4" style={{ color:
'#C62828' }}>Contraindications</h2>
  <ul className="space-y-2">

{selectedMedication.contraindications.map((contraindication, index) => (
  <li key={index} className="flex items-center">
    <div className="w-2 h-2 rounded-full mr-3
flex-shrink-0" style={{ backgroundColor: '#F44336' }}></div>
    <span style={{ color: '#C62828'
}}>{contraindication}</span>
  </li>
  )))}
</ul>
</section>
</div>

{/* Dosage Information */}
<section
  className="p-6 rounded-xl"
  style={{
    backgroundColor: '#FFF8E1',
    border: '1px solid #FFC107'
  }}
>
  <h2 className="text-xl font-bold mb-4" style={{ color:
'#F57F17' }}>Dosage & Administration</h2>
  <div className="grid grid-cols-1 md:grid-cols-3 gap-4">
    <div>
      <p className="font-semibold mb-2" style={{ color:
'#F57F17' }}>Adult Dose:</p>

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        <p style={{ color: '#F57F17'
}}>{selectedMedication.dosage.adult}</p>
    </div>
    <div>
        <p className="font-semibold mb-2" style={{ color:
'#F57F17' }}>Pediatric Dose:</p>
        <p style={{ color: '#F57F17'
}}>{selectedMedication.dosage.pediatric}</p>
    </div>
    <div>
        <p className="font-semibold mb-2" style={{ color:
'#F57F17' }}>Route:</p>
        <p style={{ color: '#F57F17'
}}>{selectedMedication.route.join(', ')}</p>
    </div>
</div>
</section>

{/* Additional Information */}
<div className="grid grid-cols-1 md:grid-cols-2 gap-6">
    <section
        className="p-6 rounded-xl"
        style={{
            backgroundColor: '#FFFFFF',
            border: '1px solid #E9ECEF',
            boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
        }}
    >
        <h2 className="text-xl font-bold mb-4" style={{ color:
'#212529' }}>Onset & Duration</h2>
        <p style={{ color: '#212529', lineHeight: '1.7'
}}>{selectedMedication.onsetDuration}</p>
    </section>

    <section
        className="p-6 rounded-xl"
        style={{
            backgroundColor: '#FFFFFF',
            border: '1px solid #E9ECEF',
            boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
        }}
    >

```

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        <h2 className="text-xl font-bold mb-4" style={{ color:
'#212529' }}>Side Effects</h2>
        <ul className="space-y-1">
          {selectedMedication.sideEffects.map((effect, index) => (
            <li key={index} className="flex items-center">
              <div className="w-2 h-2 rounded-full mr-3
flex-shrink-0" style={{ backgroundColor: '#6C757D' }}></div>
              <span style={{ color: '#212529' }}>{effect}</span>
            </li>
          ))}
        </ul>
      </section>
    </div>

    {/* Special Considerations */}
    <section
      className="p-6 rounded-xl"
      style={{
        backgroundColor: '#F3E5F5',
        border: '1px solid #9C27B0'
      }}
    >
      <h2 className="text-xl font-bold mb-4" style={{ color:
'#6A1B9A' }}>Special Considerations</h2>
      <p style={{ color: '#6A1B9A', lineHeight: '1.7'
}}>{selectedMedication.considerations}</p>
    </section>

    {/* Clinical Disclaimer */}
    <section
      className="p-6 rounded-xl"
      style={{
        backgroundColor: '#FFEBEE',
        border: '1px solid #F44336'
      }}
    >
      <div className="flex items-center mb-4">
        <AlertCircle className="w-6 h-6 mr-3" style={{ color:
'#D32F2F' }} />
        <h3 className="text-lg font-semibold" style={{ color:
'#D32F2F' }}>Important Clinical Notice</h3>
      </div>

```

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        <p className="text-sm leading-relaxed" style={{ color:
'#D32F2F' }}>
            This medication information is for educational purposes
only. Always follow your local protocols, medical director guidelines, and
scope of practice. Medication administration should only be performed by
trained and certified personnel within their authorized scope of practice.
        </p>
    </section>
</div>
</div>
)
}

return (
    <div className="max-w-6xl mx-auto">
        <div className="mb-8">
            <h1 className="text-3xl font-bold mb-4" style={{ color:
'#212529' }}>EMS Medications</h1>
            <p style={{ color: '#6C757D' }}>Comprehensive medication
reference for emergency medical services</p>
        </div>

        {/* Search and Filter Controls */}
        <div className="mb-6 flex flex-col md:flex-row gap-4">
            <div className="flex-1 relative">
                <Search className="absolute left-3 top-1/2 transform
-translate-y-1/2 w-5 h-5" style={{ color: '#6C757D' }} />
                <input
                    type="text"
                    placeholder="Search medications, classifications, or
indications..."
                    value={medicationSearch}
                    onChange={(e) => setMedicationSearch(e.target.value)}
                    className="w-full pl-10 pr-4 py-3 rounded-lg border"
                    style={{
                        borderColor: '#E9ECEF',
                        backgroundColor: 'FFFFFF'
                    }}
                />
            </div>
            <div className="relative">

```

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        <Filter className="absolute left-3 top-1/2 transform
-translate-y-1/2 w-5 h-5" style={{ color: '#6C757D' }} />
        <select
          value={medicationFilter}
          onChange={(e) => setMedicationFilter(e.target.value)}
          className="pl-10 pr-8 py-3 rounded-lg border
appearance-none"
          style={{
            borderColor: '#E9ECEF',
            backgroundColor: '#FFFFFF'
          }}
        >
          <option value="all">All Scopes</option>
          <option value="EMT-B">EMT-B</option>
          <option value="AEMT">AEMT</option>
          <option value="Paramedic">Paramedic</option>
        </select>
      </div>
    </div>

    {/ * Medication Count by Scope */}
    <div className="mb-6 grid grid-cols-1 md:grid-cols-4 gap-4">
      <div className="p-4 rounded-lg text-center" style={{
        backgroundColor: '#E3F2FD', border: '1px solid #007BFF' }}>
        <div className="text-2xl font-bold" style={{ color: '#007BFF'
}}>
          {medications.filter(med => med.scope === 'EMT-B').length}
        </div>
        <div className="text-sm" style={{ color: '#1565C0' }}>EMT-B
Medications</div>
      </div>
      <div className="p-4 rounded-lg text-center" style={{
        backgroundColor: '#E8F5E8', border: '1px solid #28A745' }}>
        <div className="text-2xl font-bold" style={{ color: '#28A745'
}}>
          {medications.filter(med => med.scope === 'AEMT').length}
        </div>
        <div className="text-sm" style={{ color: '#155724' }}>AEMT
Medications</div>
      </div>
      <div className="p-4 rounded-lg text-center" style={{
        backgroundColor: '#F3E5F5', border: '1px solid #9C27B0' }}>

```

```

        <div className="text-2xl font-bold" style={{ color: '#9C27B0'
    }}>
        {medications.filter(med => med.scope ===
'Paramedic').length}
    </div>
    <div className="text-sm" style={{ color: '#6A1B9A'
}}>Paramedic Medications</div>
    </div>
    <div className="p-4 rounded-lg text-center" style={{
backgroundColor: '#FFF8E1', border: '1px solid #FFC107' }}>
        <div className="text-2xl font-bold" style={{ color: '#F57F17'
    }}>
            {medications.length}
        </div>
        <div className="text-sm" style={{ color: '#F57F17' }}>Total
Medications</div>
    </div>
</div>

{/* Medications Grid */}
<div className="grid gap-4">
    {filteredMedications.map((medication) => (
        <div
            key={medication.id}
            className="p-6 rounded-xl transition-all duration-300
hover:scale-[1.02] cursor-pointer group"
            style={{
                backgroundColor: '#FFFFFF',
                border: '1px solid #E9ECEF',
                boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
            }}
            onClick={() => setSelectedMedication(medication)}
        >
            <div className="flex items-center justify-between">
                <div className="flex items-center">
                    <div
                        className="w-12 h-12 rounded-xl flex items-center
justify-center mr-4"
                        style={{ backgroundColor: '#6F42C1' }}
                    >
                        <Pill className="w-6 h-6 text-white" />
                    </div>

```

```

<div>
  <div className="flex items-center gap-2 mb-1">
    <h3 className="text-xl font-semibold" style={{
color: '#212529' }}>
      {medication.name}
    </h3>
    <span
      className="px-2 py-1 rounded-full text-xs
font-medium"
      style={{
        backgroundColor: medication.scope === 'EMT-B' ?
'#007BFF' : medication.scope === 'AEMT' ? '#28A745' : '#6F42C1',
        color: '#FFFFFF'
      }}
    >
      {medication.scope}
    </span>
  </div>
  <p className="text-sm mb-2" style={{ color: '#6C757D'
}}>
    {medication.classification} •
    {medication.brandNames.join(', ')}
  </p>
  <p className="text-sm" style={{ color: '#6C757D' }}>
    Primary indications:
    {medication.indications.slice(0, 3).join(', ')}
  </p>
</div>
</div>
<ChevronRight className="w-6 h-6 text-gray-400
group-hover:text-purple-500 transition-colors" />
</div>
</div>
  )))
</div>

{filteredMedications.length === 0 && (
  <div className="text-center py-12">
    <Pill className="w-16 h-16 mx-auto mb-4" style={{ color:
'#6C757D' }} />
    <h3 className="text-xl font-semibold mb-2" style={{ color:
'#212529' }}>No Medications Found</h3>

```

```

        <p style={{ color: '#6C757D' }}>
            Try adjusting your search terms or filter criteria
        </p>
    </div>
    )}
</div>
)

// Include existing notes case and other cases here...
default:
    return (
        <div className="max-w-4xl mx-auto">
            <h1 className="text-3xl font-bold mb-6" style={{ color: '#212529'
}}>
                {navigationItems.find(item => item.id === currentPage)?.name ||
'Page' }
            </h1>
            <div
                className="p-6 rounded-xl"
                style={{
                    backgroundColor: '#FFFFFF',
                    border: '1px solid #E9ECEF',
                    boxShadow: '0 2px 8px rgba(0, 123, 255, 0.08)'
                }}
            >
                <p style={{ color: '#6C757D' }}>This section is under
development...</p>
            </div>
        </div>
    )
}
}

return (
    <div className="min-h-screen" style={{ backgroundColor: '#F8F9FA' }}>
        <header
            className="sticky top-0 z-50 border-b"
            style={{
                backgroundColor: 'rgba(248, 249, 250, 0.95)',
                backdropFilter: 'blur(12px)',
                borderColor: 'rgba(0, 123, 255, 0.1)'
            }}
        >

```

```

>
<div className="container mx-auto px-4 py-8">
  <div className="text-center">
    <div className="w-48 h-48 md:w-64 md:h-64 mx-auto mb-4">
      
    </div>
    <h1 className="text-xl md:text-2xl font-bold" style={{ color:
'#212529' }}>
      Professional Emergency Medical Services Education
    </h1>
  </div>
</div>
</header>

<main className="container mx-auto px-4 py-6 pb-24">
  {renderCurrentPage()}
</main>

<nav
  className="fixed bottom-0 left-0 right-0 border-t"
  style={{
    backgroundColor: '#FFFFFF',
    borderColor: '#E9ECEF',
    boxShadow: '0 -2px 8px rgba(0, 123, 255, 0.08)'
  }}
>
  <div className="grid grid-cols-5 gap-1 p-2">
    {navigationItems.map((item) => {
      const Icon = item.icon
      const isActive = currentPage === item.id
      return (
        <button
          key={item.id}
          onClick={() => setCurrentPage(item.id)}
          className="flex flex-col items-center justify-center p-2
rounded-lg transition-colors min-h-[60px] touch-manipulation"

```



```

        style={{
          backgroundColor: isActive ? '#007BFF' : 'transparent',
          color: isActive ? 'FFFFFF' : '#6C757D'
        }}
      >
        <Icon className="w-5 h-5 mb-1" />
        <span className="text-xs font-medium leading-tight
text-center">
          {item.name.split(' ')[0]}
        </span>
      </button>
    )
  }
}
</div>
</nav>
</div>
)
}

```

```
export default Application
```

```
'@ | Out-File -FilePath "src\Application.tsx" -Encoding UTF8
```