

Do-It-Yourself Devices for Training CPR in Laypeople: A Scoping Review

Supplementary materials

Preliminary search terms:

(CPR) OR (Resuscitation) AND (manikin) OR (mannequin) AND (DIY) OR (handmade) OR (low-cost) OR (do-it-yourself) OR (PET) OR (toilet paper) AND (training) OR (instruction) OR (learning)

Results

96 citations to various types of materials including journal articles, websites, and videos. Specific strategies and retrieval are below.

Specific Search Strings

Table Supplementary: PubMed Keywords and MeSH Terms

Concept	Keywords	MeSH
CPR	CPR reanimation resuscitation "Cardiopulmonary resuscitation" "Cardiopulmonary resuscitation" "Chest compression" or "chest compressions" "Cardiac life support" "Cardiovascular life support"	Cardiopulmonary resuscitation Maybe broadly look at Cardiopulmonary Resuscitation / education*
Manikin	manikin* mannequin* dummy dummies	Manikins
DIY	bottle* DIY "Do it yourself"	

"In house" handmade "handmade" homemade "homemade" homebrew "Low cost" "Non inferior" affordable inexpensive cost-efficient cost-effective PET "Toilet paper" "Toilet roll" "Toilet rolls" towel* sponge foam dice foam block plastic bag	
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PubMed #1

("Cardiopulmonary resuscitation" [mesh] OR CPR[Title/Abstract] OR reanimation [Title/Abstract] OR resuscitation [Title/Abstract] OR "cardiopulmonary resuscitation"[Title/Abstract] OR "cardiopulmonary resuscitation"[Title/Abstract] OR "chest compression"[Title/Abstract] OR "chest compressions"[Title/Abstract] OR "cardiac life support"[Title/Abstract] OR "cardiovascular life support"[Title/Abstract])

AND

(Manikins[mesh] OR manikin*[Title/Abstract] OR mannequin*[Title/Abstract] OR dummy [Title/Abstract] OR dummies [Title/Abstract])

AND

(bottle[Title/Abstract] OR DIY[Title/Abstract] OR "do it yourself"[Title/Abstract] OR "in house"[Title/Abstract] OR handmade[Title/Abstract] OR "handmade"[Title/Abstract] OR homemade[Title/Abstract] OR "homemade"[Title/Abstract] OR homebrew[Title/Abstract] OR "low cost"[Title/Abstract] OR "non inferior"[Title/Abstract] OR PET[Title/Abstract] OR "toilet paper"[Title/Abstract] OR foam[tiab]) n=43; selected 9

PubMed #2

("Cardiopulmonary resuscitation"[mesh] OR CPR[Title] OR reanimation[Title] OR resuscitation[Title] OR "cardio pulmonary resuscitation"[Title] OR "cardiopulmonary resuscitation"[Title] OR "chest compression"[Title] OR "chest compressions"[Title] OR "cardiac life support"[Title] OR "cardiovascular life support"[Title]) AND (bottle[Title/Abstract] OR

DIY[Title/Abstract] OR "do it yourself"[Title/Abstract] OR "in house"[Title/Abstract] OR handmade[Title/Abstract] OR "handmade"[Title/Abstract] OR homemade[Title/Abstract] OR "homemade"[Title/Abstract] OR homebrew[Title/Abstract] OR "low cost"[Title/Abstract] OR "non inferior"[Title/Abstract] OR PET[Title/Abstract] OR "toilet paper"[Title/Abstract] OR "toilet roll"[tiab] OR "toilet rolls"[tiab] OR towel*[tiab] OR "foam block"[tiab] OR "foam dice"[tiab] OR plastic*[tiab])

N=208; selected 4

PubMed Total 13 citations

Web of Science All Databases

(CPR OR reanimation OR resuscitation OR "cardiopulmonary resuscitation" OR "cardiopulmonary resuscitation" OR "chest compression" OR "chest compressions" OR "cardiac life support" OR "cardiovascular life support")

AND

(manikin* OR mannequin* OR dummy OR dummies)

AND

(Bottle OR DIY OR "do it yourself" OR "in house" OR handmade OR "handmade" OR homemade OR "homemade" OR homebrew OR "low cost" OR "non inferior" OR PET OR "toilet paper" OR "foam dice" OR "foam block") n=59, selected 11

Citation Searching: added one more

(CPR OR reanimation OR resuscitation OR "cardiopulmonary resuscitation" OR "cardiopulmonary resuscitation" OR "chest compression" OR "chest compressions" OR "cardiac life support" OR "cardiovascular life support")

AND

(bottle* OR DIY OR "do it yourself" OR "in house" OR handmade OR "handmade" OR homemade OR "homemade" OR homebrew OR "low cost" OR "inexpensive" OR PET OR "toilet paper" OR "foam dice" OR "foam block" OR "toilet roll" OR "toilet rolls" OR towel* OR plastic)

n = 765 (exclude patents), exclude veterinary or Zoology; selected 21 total (including above)

CINAHL

((MH "Resuscitation, Cardiopulmonary+") OR (CPR OR reanimation OR resuscitation OR "cardiopulmonary resuscitation" OR "cardiopulmonary resuscitation" OR "chest compression" OR "chest compressions" OR "cardiac life support" OR "cardiovascular life support"))

AND

(bottle* OR DIY OR “do it yourself” OR “in house” OR handmade OR “handmade” OR homemade OR “homemade” OR homebrew OR “low cost” OR “inexpensive” OR PET OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

N=313 (Academic Articles); selected 3

VIRGO Articles

Title (CPR OR resuscitation OR "cardiopulmonary resuscitation" OR "cardiopulmonary resuscitation" OR "chest compression" OR "chest compressions" OR "cardiac life support" OR "cardiovascular life support")

AND

Title (bottle* OR DIY OR “do it yourself” OR “in house” OR handmade OR “handmade” OR homemade OR “homemade” OR homebrew OR “low cost” OR “inexpensive” OR PET OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

n=88, selected 0 (no new citations)

Academic Search Complete

Title (CPR OR resuscitation OR manikin OR mannequin) AND Abstract(DIY OR “do it yourself” OR handmade OR homemade OR homebrew OR “low cost” OR inexpensive OR affordable OR “cost effective” OR “cost efficient” OR bottle* OR “in house” OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

n=30, selected 1

LILACS (Latin America and the Caribbean)

(CPR OR reanimation OR resuscitation OR "cardiopulmonary resuscitation" OR "cardiopulmonary resuscitation" OR "chest compression" OR "chest compressions" OR "cardiac life support" OR "cardiovascular life support")

AND

(bottle* OR DIY OR “do it yourself” OR “in house” OR handmade OR “handmade” OR homemade OR “homemade” OR homebrew OR “low cost” OR “inexpensive” OR PET OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

n=0

Europe PMC (for preprints)

Title (CPR OR resuscitation OR manikin OR mannequin) AND Abstract (DIY OR “do it yourself” OR handmade OR homemade OR homebrew OR “low cost” OR inexpensive OR

affordable OR “cost effective” OR “cost efficient” OR bottle* OR “in house” OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic) n=0

ClinicalTrials.gov

(CPR OR resuscitation) AND (DIY OR “do it yourself” OR handmade OR homemade OR homebrew OR “low cost” OR “inexpensive” OR bottle* OR “in house” OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

n=42, selected 1

Google Scholar

CPR OR "cardiopulmonary resuscitation" AND (handmade OR “handmade” OR homemade OR “homemade” OR homebrew OR “low cost” OR inexpensive OR bottle* OR DIY OR “do it yourself” OR “in house” OR PET OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic) (limited to first 200 citations; selected 103 including patents)

reviewed first 200 citations; selected 32

Google and Google Images

(CPR OR "cardiopulmonary resuscitation") AND (DIY OR “do it yourself” OR handmade OR homemade OR homebrew OR “low cost” OR “inexpensive” OR bottle* OR “in house” OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

("cardiopulmonary resuscitation") AND (DIY OR “do it yourself” OR handmade OR homemade OR homebrew OR “low cost” OR “inexpensive” OR bottle* OR “in house” OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

CPR manikin AND (DIY OR “do it yourself” OR handmade OR homemade OR homebrew OR “low cost” OR “inexpensive” OR bottle* OR “in house” OR “toilet paper” OR “foam dice” OR “foam block” OR “toilet roll” OR “toilet rolls” OR towel* OR plastic)

DIY CPR dummy

homemade CPR manikin

YouTube

DIY CPR dummy, Homemade CPR manikin

Reddit

Homemade CPR manikin, DIY CPR dummy, DIY CPR manikin

Twitter

(Duplicates of above)

https://mobile.twitter.com/hashem_sharifa/status/1317373924821377025

Instagram

<https://www.instagram.com/p/CGZwyyFFBY4/?igshid=1szjzvgjb5kb>

Google searches

"How to make a diy CPR dummy"

https://www.google.com/search?hl=en&sxsrf=ALiCzsZTfNuh419mLgfb336rsdy9ufnxFO:1658593889730&q=How+to+make+a+diy+cpr+dummy&sa=X&ved=2ahUKEwjM0_7ct4_5AhXfg4kEHRS0D2cO1QJ6BAheEAE&biw=2133&bih=932&dpr=0.9

"Improvised CPR dummy"

https://www.google.com/search?hl=en&sxsrf=ALiCzsZgda315vO9WCYJ-IVK0E_8xUaL4g:1658593911828&q=Improvised+CPR+dummy&sa=X&ved=2ahUKEwiDtcPnt4_5AhUvkYkEHWWSCVoO1QJ6BAg5EAE&biw=2133&bih=932&dpr=0.9

“homemade CPR manikin”

https://www.google.com/search?q=homemade+CPR+manikin+&bih=604&biw=1396&hl=en&ei=ATuiYpvIEo2e_QbznoToAw&ved=0ahUKEwjbzOKG_6D4AhUNT98KHXMPAT0Q4dUDCA4&uact=5&oq=homemade+CPR+manikin+&gs_lcp=Cgdnd3Mtd2l6EAMyBggAEB4QFjIFCAAQhgMyBOgAEIYDSgOIQRgBSgOIRhgAUPgJWMYxYMA3aAFwAHgAgAE5iAE5kgEBMZgBAKABAcABAQ&scient=gws-wiz#kpvalbx=_BM7bYv2VAcyG0PEP3IKX0Aw15